China, Manchuria, Japan, Indo-China, Siam, Straits Settlements, Malay States, Burma, India, Malaysia, and the Philippines.

COMPLIMENTARY

THE FAR EASTERN REVIEW

APR 19 1911

VOL. VII.—No. 8. MANILA, SHANGHAI AND YOKOHAMA, JANUARY, 1911. 50 Centavos Philippine Currency 25 Cents. U. S. C.



His Excellency General YIN-CHANG

President of the Board of Army Affairs.

New Zealand Railways and Public Works

Cebu's New Water Supply System

General News and Comment

Commercial Commission from Central West to Visit Orient

ENGINEERING COMMERCE FINANCE

22
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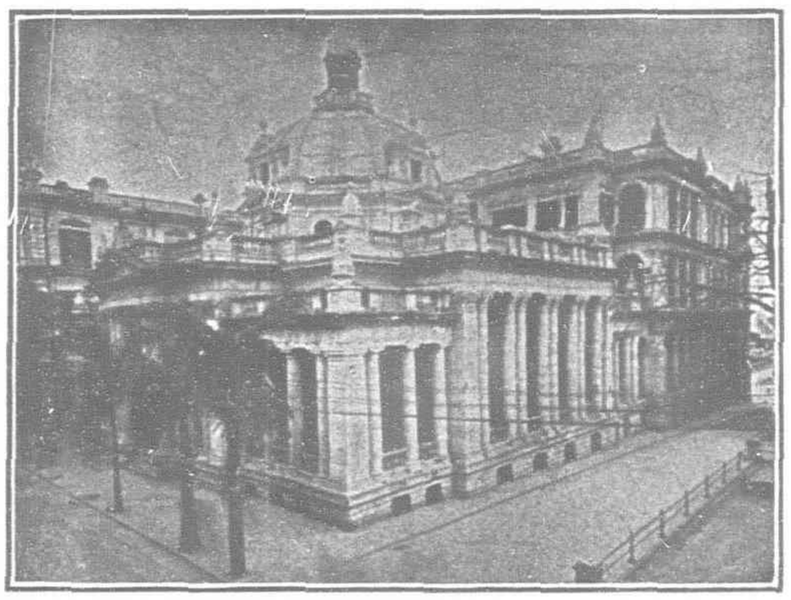
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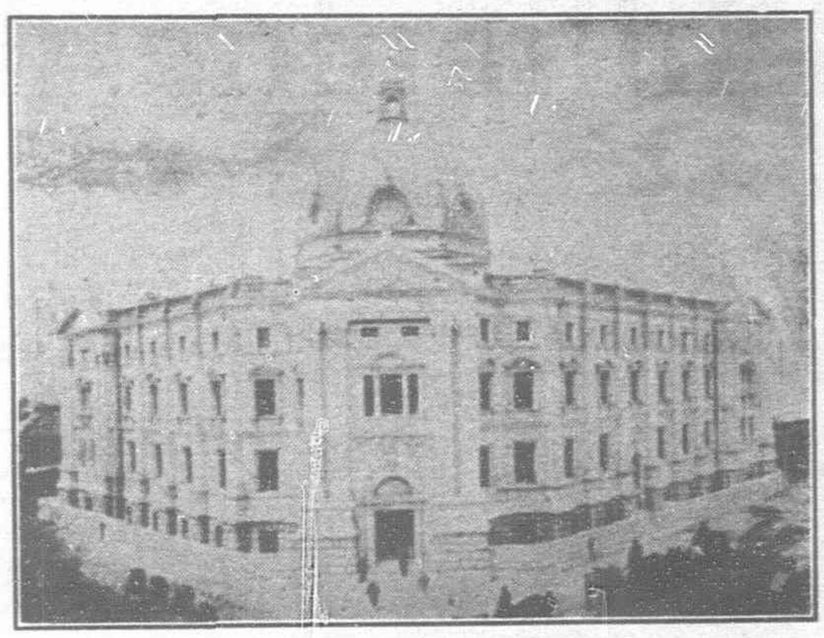
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Reserve Fund ..... Kpg. $1,670,000

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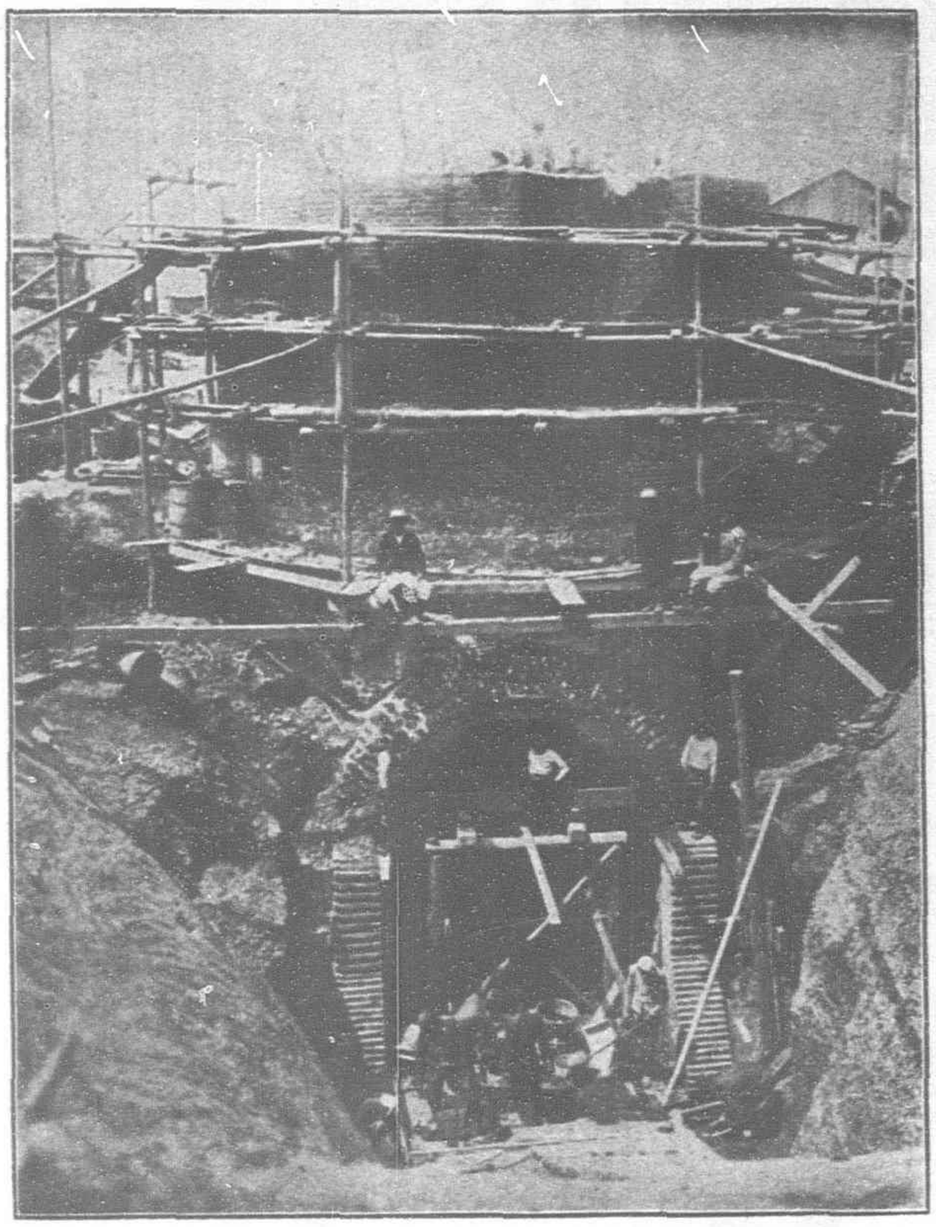
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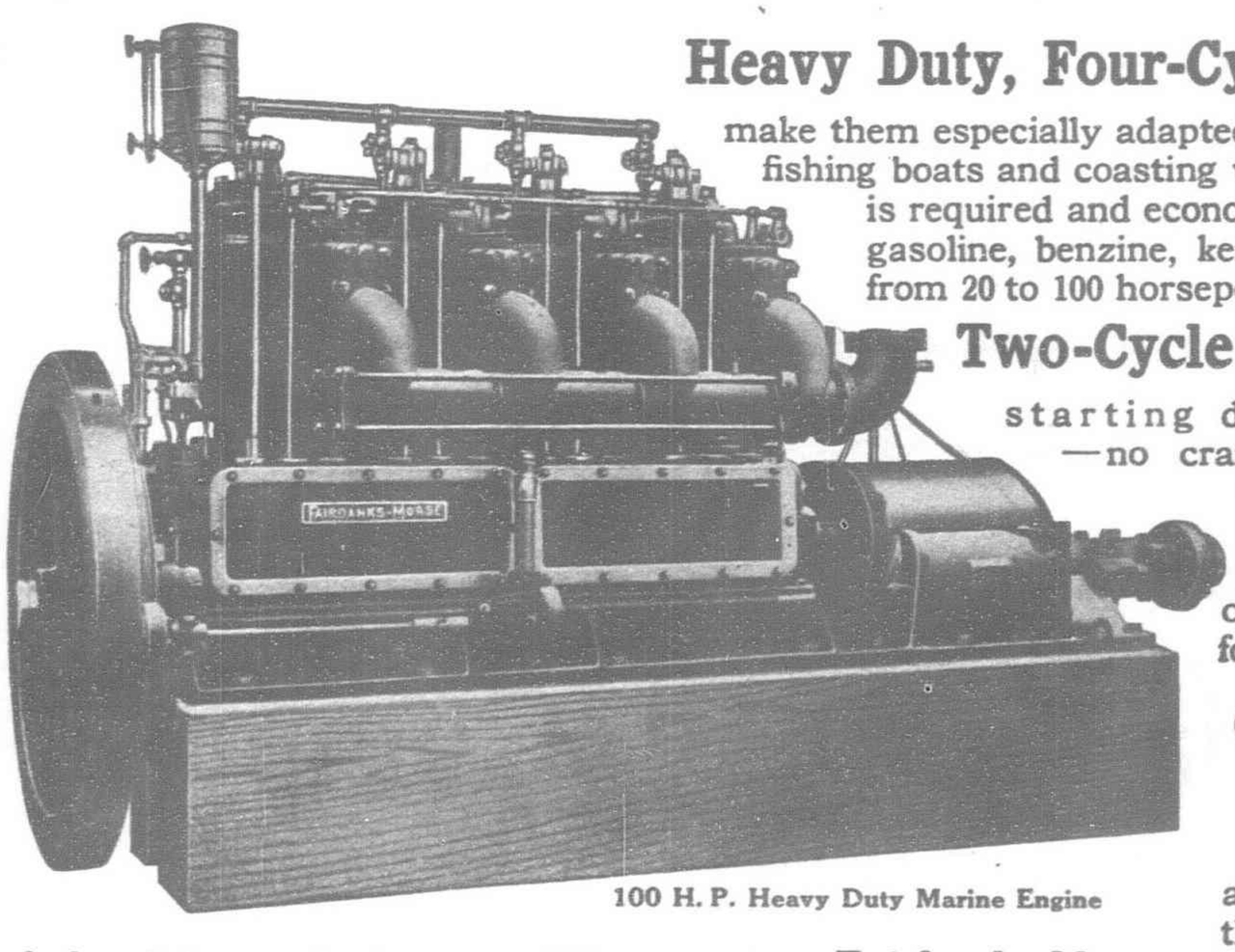
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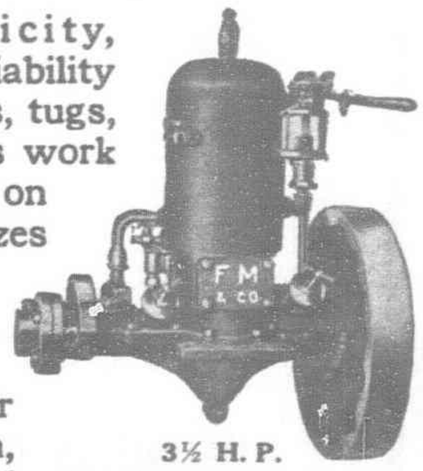
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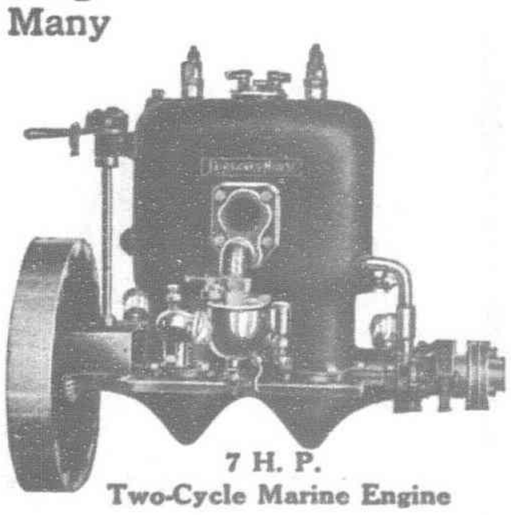


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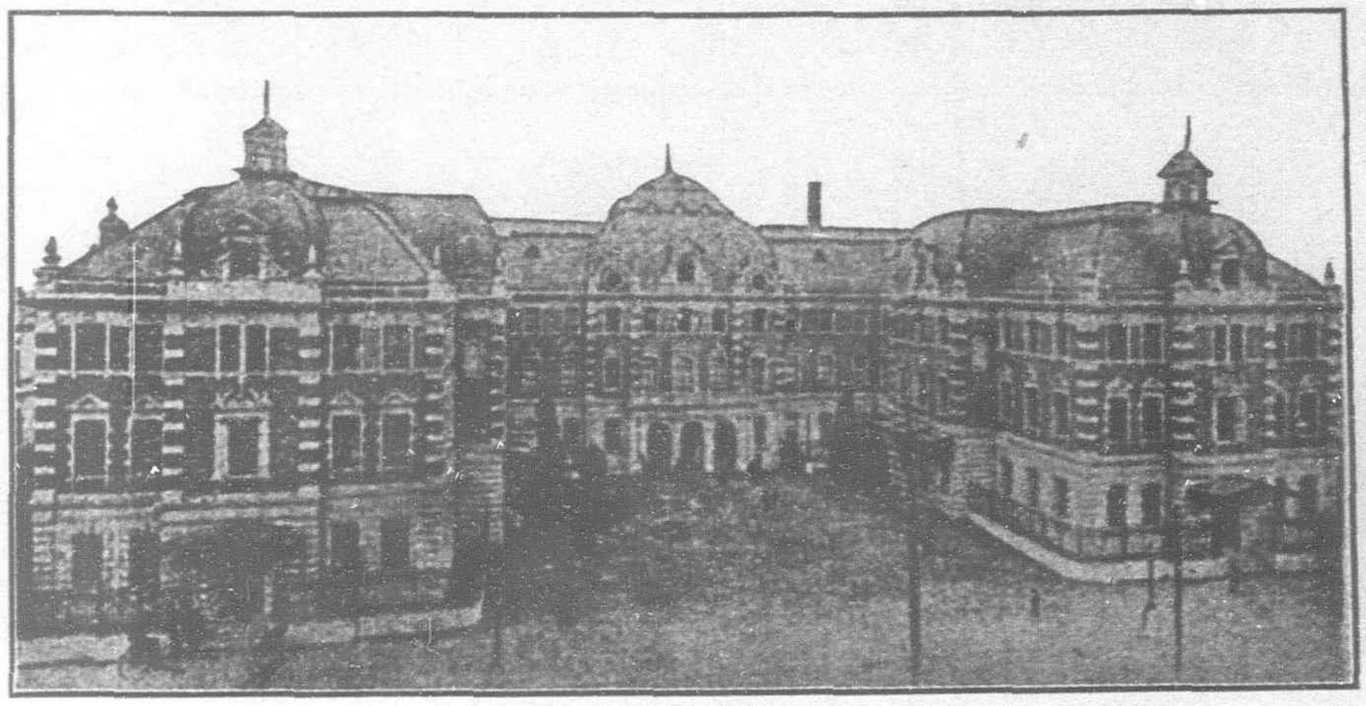
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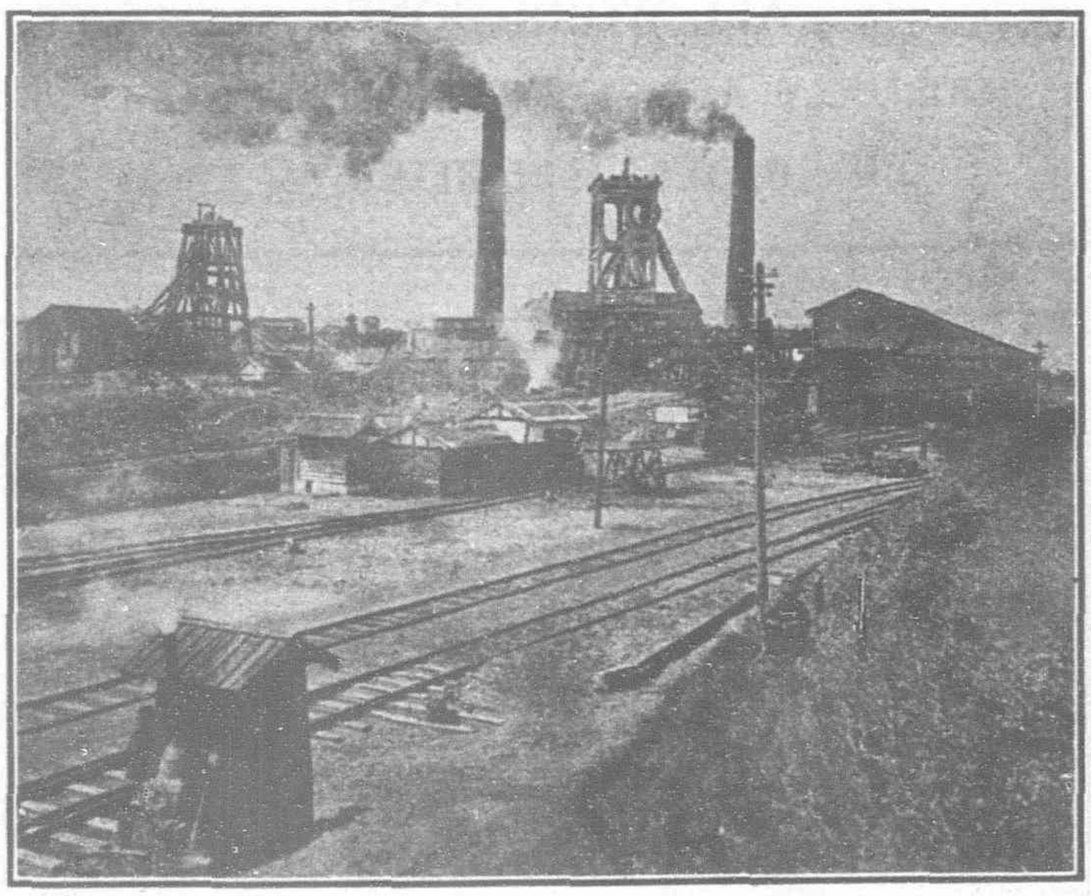
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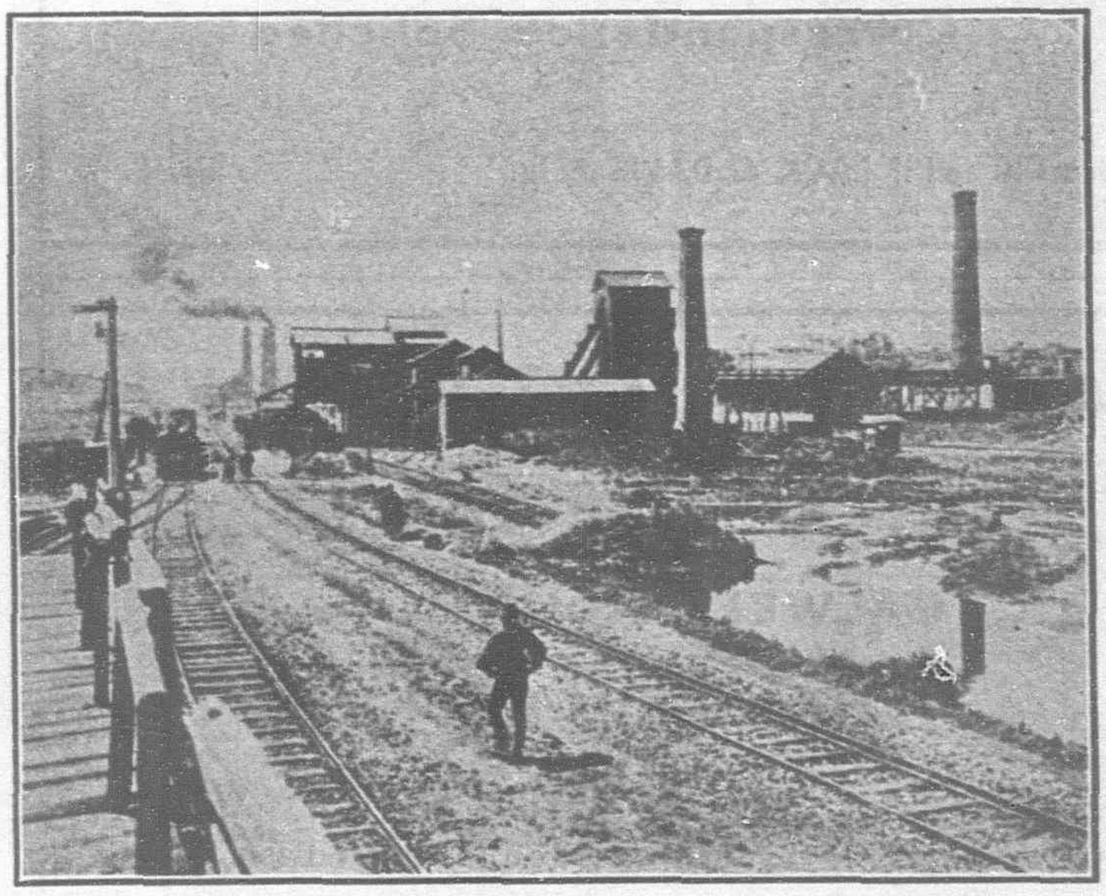
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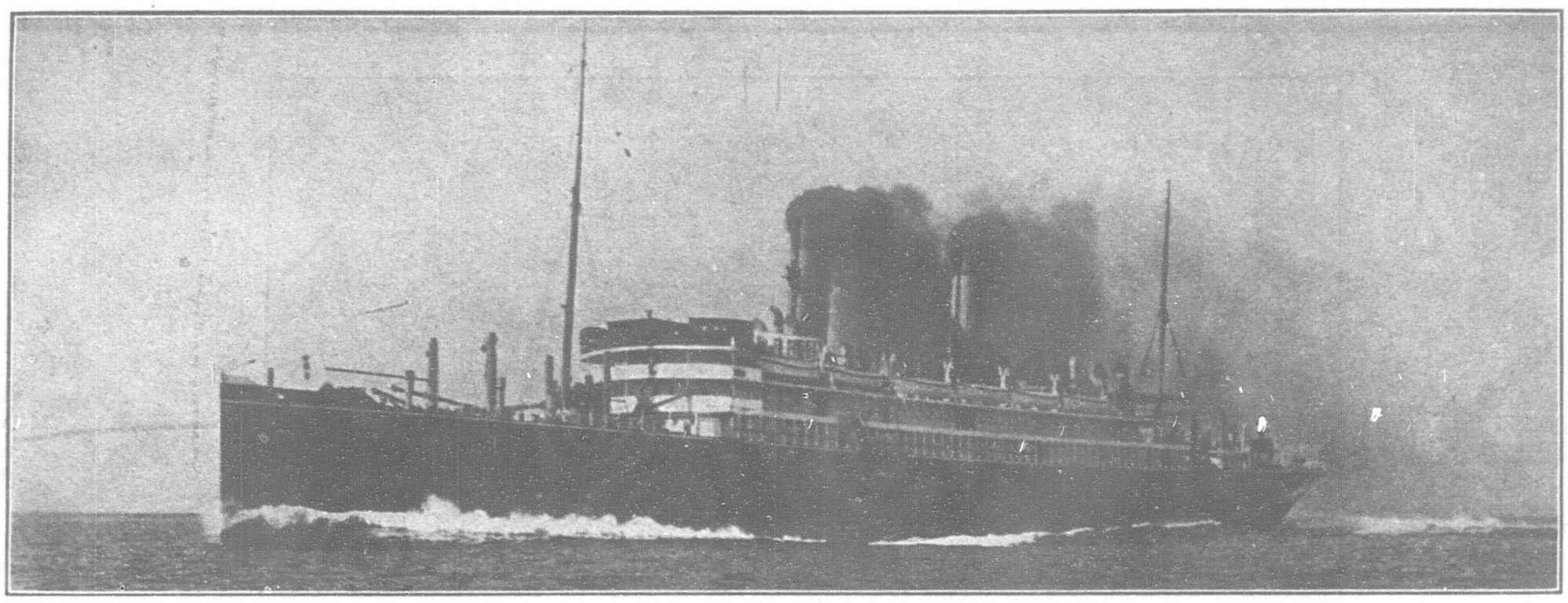
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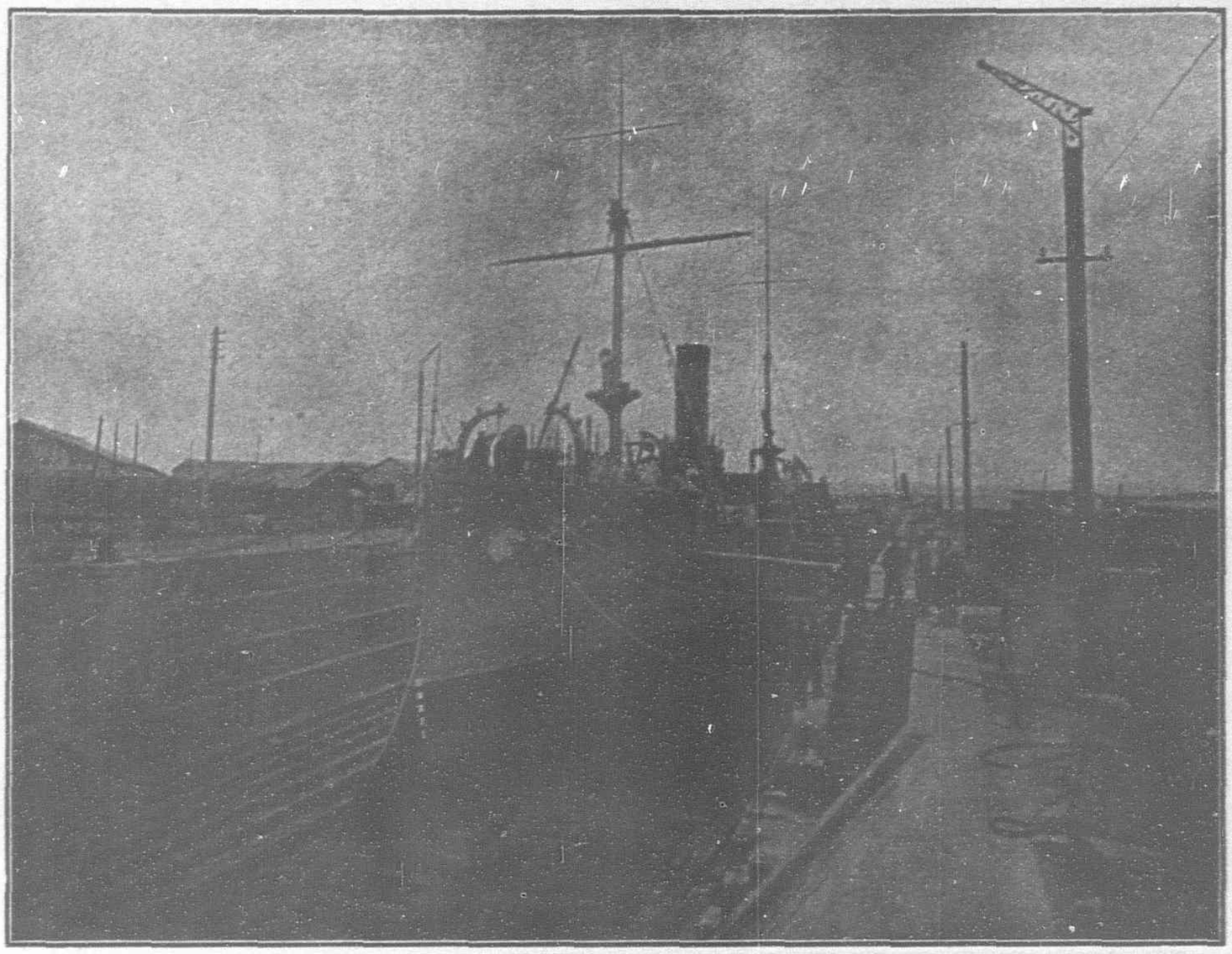
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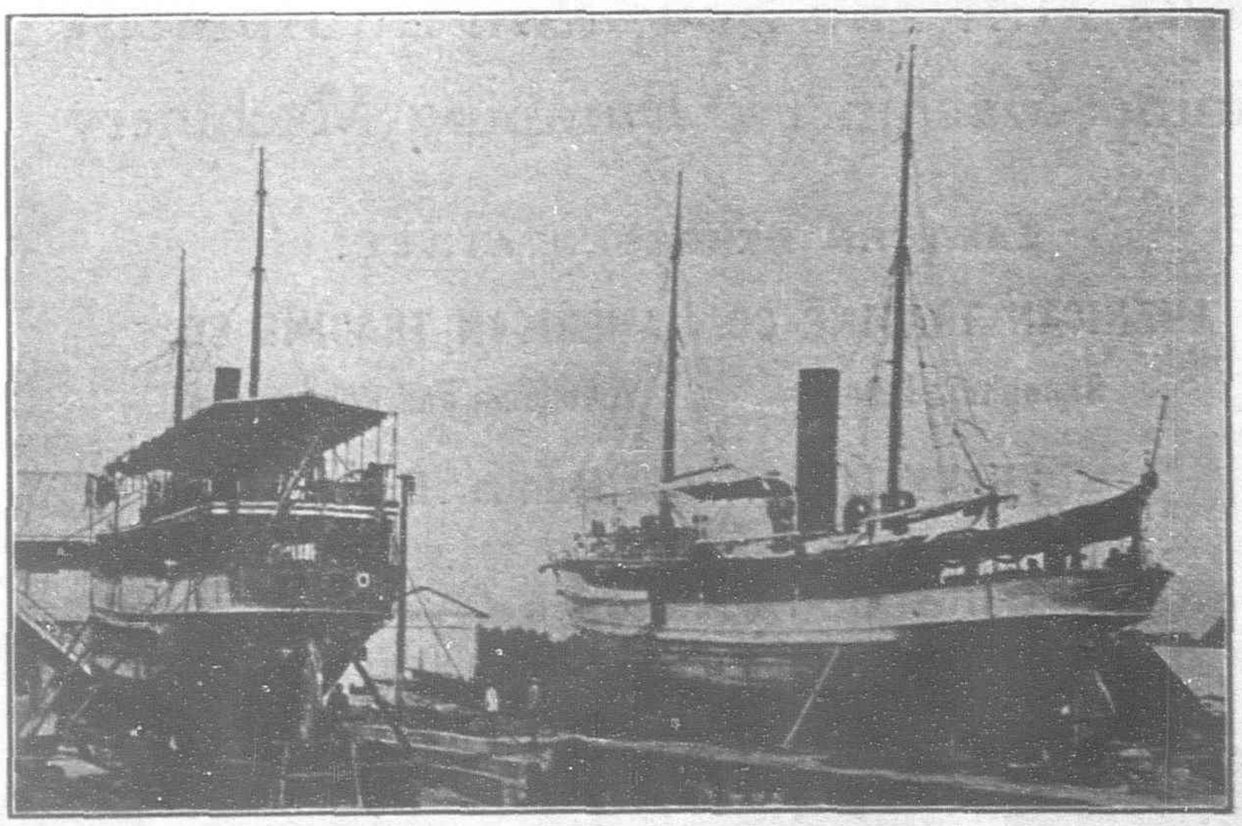
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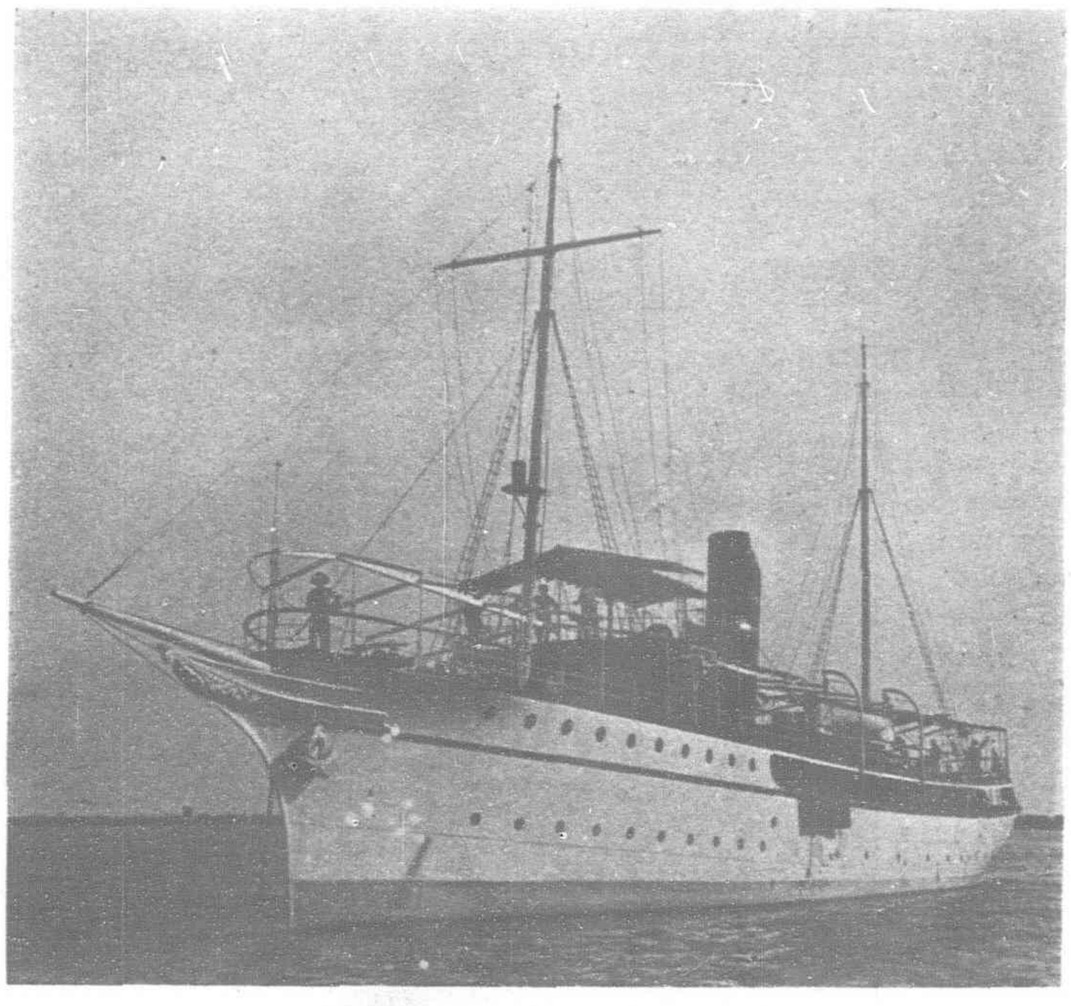
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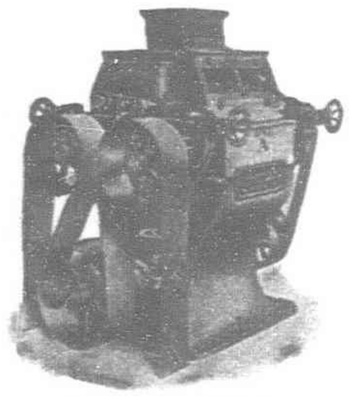


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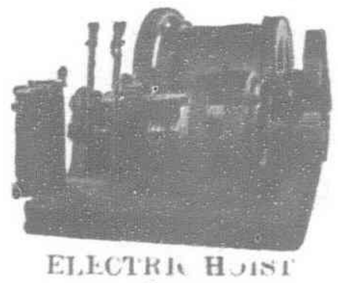
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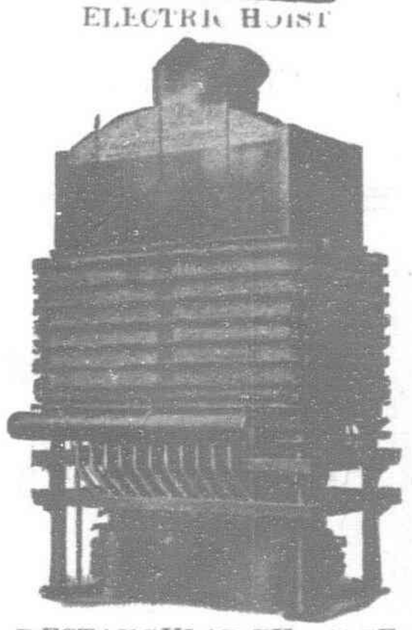
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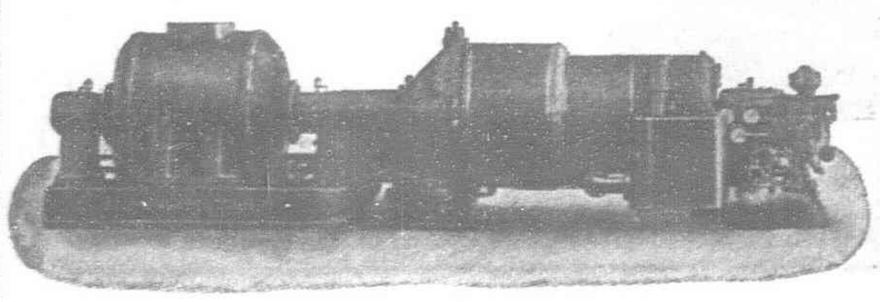
AMERICAN TRADING CO. Yokohama and Kobe, Japan

FRANK L. STRONG, Manila, P. I.

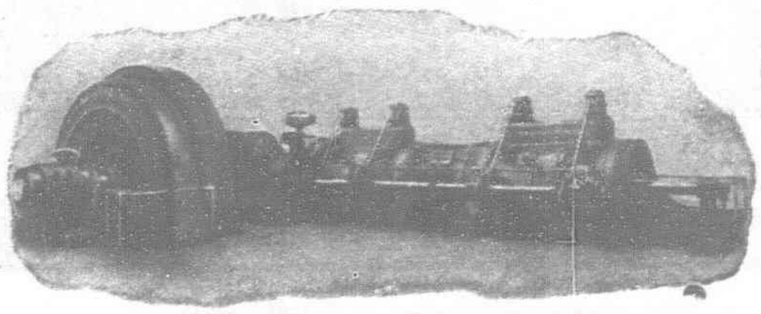
General Offices:—Milwaukee, Wis., U. S. A.



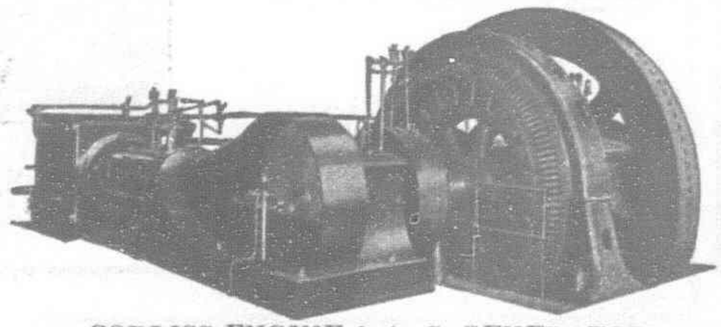
RECTANGULAR FURNACE



STEAM TURBINE UNIT



GAS ENGINE & A. C. GENERATOR



CORLISS ENGINE & A. C. GENERATOR

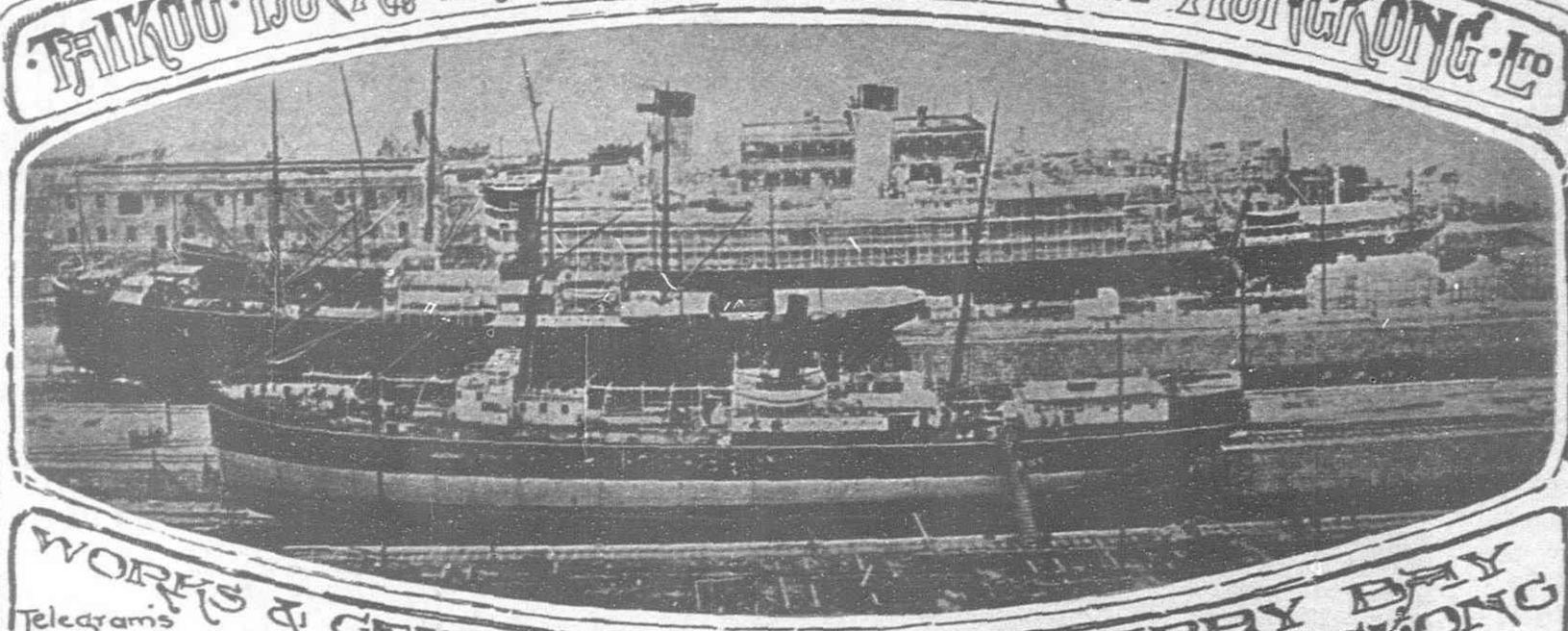
TAIKOO DOCKYARD & ENGINEERING Co OF HONGKONG Ltd

Engineers, Boilermakers, & Repairers

WORKS COVER AN AREA OF 53 ACRES

DRY DOCK 787 FT. × 88 FT. DEPTH 34½ FT.

SLIPWAYS NO. 1 1030 FT. NO. 2 993½ FT. NO. 3 993½ FT.



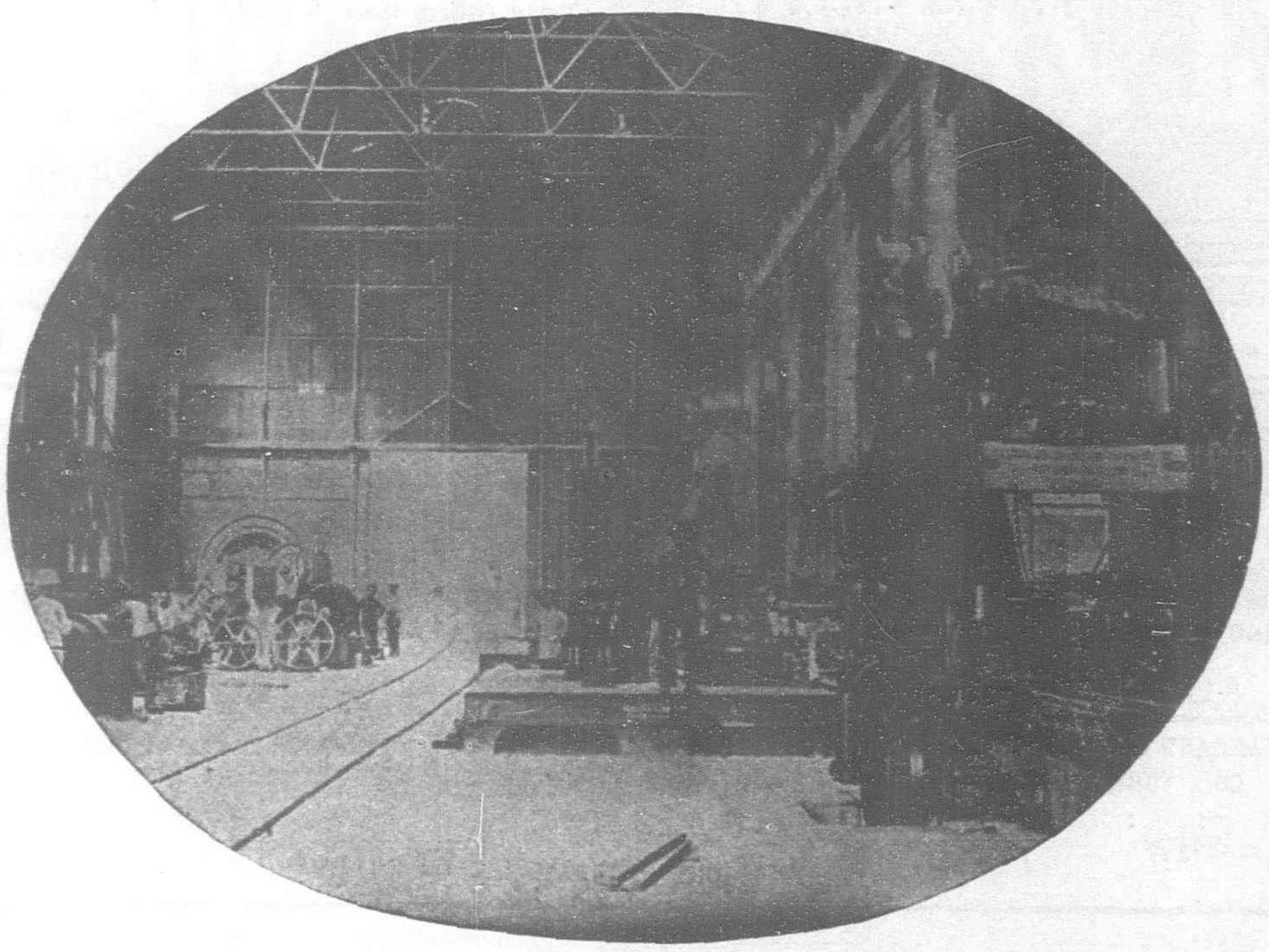
WORKS & GENERAL OFFICES QUARRY BAY HONGKONG

Telegrams Fenseloaf London Taikoodock Hongkong

Builders OF PASSENGER AND CARGO STEAMERS, TURBINE STEAMERS, STEAM YACHTS, ALL TYPES OF WAR VESSELS STEAM LAUNCHES MOTOR BOATS TUGS AND LIGHTERS

A SECTION OF THE YARD SHEWING TURBINE STEAMSHIP "CHIYO MARU" 13,600 TONS IN DRY-DOCK, TWO COASTING STEAMERS ON SLIPWAYS, AND VESSEL LYING ALONGSIDE THE SEAWALL

THE BUILDING YARD IS LAID OUT WITH FURNACES AND PLANT SUITABLE FOR BUILDING VESSELS UP TO 20,000 TONS



VIEW OF PORTION OF MACHINE SHOPS

GENERAL MANAGERS
John Swire & Sons
8 BILLITER SQUARE, LONDON

AGENTS IN HONGKONG, CHINA AND JAPAN
Butterfield & Swire

THE POWER FOR THE ESTABLISHMENT is generated by Gas Producers, on the Mond System, supplying 4 Cockerill Gas Engines of 3,000 collective horse power, driving Electrical Generators, and is transmitted throughout the Works by means of Electrical Motors.

AN ELECTRIC DERRICK CRANE capable of lifting weights up to 100 tons, is erected on the Sea Wall, and 14 Electric Overhead Travelling Cranes ranging from 5 tons to 100 tons, are fitted throughout the Workshops.

AGENTS IN MANILA AND PHILIPPINE ISLANDS
CASTLE BROS.-
WOLF & SONS

THE DOCK PUMPS consist of 2 sets of Centrifugal, Electrically driven, pumps, together capable of emptying the Dock with 35 feet of water on the Sill in 2¾ hours.

THE MACHINERY in the Engine Works is laid out for dealing with the heaviest classes of Engines.

THE SLIPWAY CARRIAGES are of the latest pattern by Morton of Leith, and the Winding Gear consists of large electrically driven winches operating massive wire cables.

TENDERS SUBMITTED AND ESTIMATES GIVEN FOR BUILDING AND REPAIRING ALL CLASSES OF VESSELS; ALSO FOR EVERY DESCRIPTION OF ENGINE AND BOILER, MECHANICAL, ELECTRICAL AND CONSTRUCTIONAL WORK

HONGKONG & WHAMPOA DOCK CO., LTD.

HONGKONG

Telegraphic Address: **Manifesto Hongkong**
Dock Owners, Ship Builders, Marine and Land Engineers, Boiler Makers, Iron and Brass Founders, Forge Masters, Electricians.

All classes of CONSTRUCTIONAL and GENERAL ENGINEERING WORK undertaken, also LOCOMOTIVES, RAILWAY ROLLINGSTOCK and PLANT, BRIDGES, etc.

COAST and RIVER STEAMERS, TUG BOATS and LAUNCHES, SHALLOW DRAFT VESSELS and STERN WHEEL STEAMERS

AUXILIARY MACHINERY for MARINE and LAND Purposes.

LAND and MARINE BOILERS of all sizes and classes. GALVANIZING by the Electrical process.

IRON and BRASS CASTINGS of all descriptions.

FORGINGS in IRON and STEEL for SHIPS, ENGINES, and LAND WORK, large and small.

We make a specialty of HIGH SPEED MOTOR BOATS for PASSENGER and CARGO Traffic.

ALL CLASSES of COCKS, VALVES and FITTINGS in IRON and BRASS supplied.

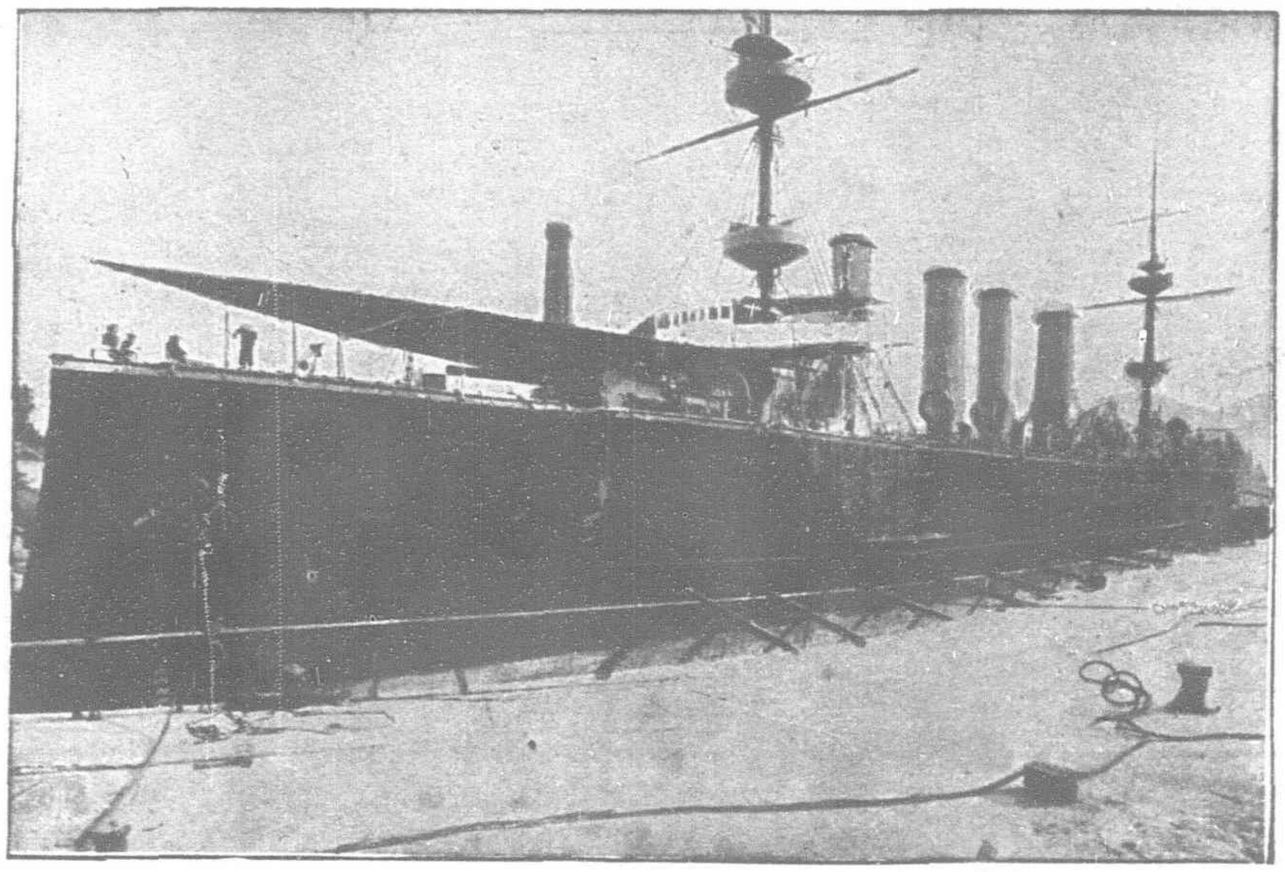
BOLTS, NUTS and RIVETS MANUFACTURED at SHORT NOTICE.

FINISHED NUTS in BRASS and IRON.

A LARGE STOCK of STEEL and IRON PLATES, BARS and ANGLES, always in hand.

The Company possesses SIX GRANITE DOCKS and TWO PATENT SLIPWAYS and these are equipped for EXPEDITIOUS WORK. Our plant is of the most modern type throughout.

Ship Owners and Captains are assured that DOCKING and REPAIRS are carried out PROMPTLY and at MODERATE CHARGES.



H. M. S POWERFUL IN NO. 1 DOCK, KOWLOON.

The Dimensions of Docks and Slips are as follows:—

Name of Dock or Slip	*Length on Keel Blocks*	*Entrance Breadth*	*Depth Over Sill at Ordinary Spring Tides*	*Rise of Tide*	
				Springs	*Neaps*
KOWLOON	*Feet*	*Feet*	*Feet*	*Feet*	*Feet*
No. 1 Dock, Kowloon	700	86 ft. top / 70 ft. bottom	30′	7′ 6″	3
No. 2 Dock, Kowloon	371	74′	18′ 6″	7′ 6″	—
No. 3 Dock, Kowloon	264	49′ 3″	14′	7′ 6″	—
Patent Slip, No. 1, Kowloon	240	60′	14′	7′ 6″	—
Patent Slip, No 2, Kowloon	220	60′	12′	7′ 6″	—
TAI-KOK-TSUI					
Cosmopolitan Dock	466	85′ 6″	20′	7′ 6′	—
ABERDEEN					
Hope Dock	430	84′	23′	7′ 6″	—
Lamont Dock	333	64′	16′	7′ 6″	—

Please Address Enquiries to the Chief Manager, R. M. DYER, B. Sc., M. I. N. A., Kowloon Dock, Hongkong

Telephone No. 13 K. Head Office, Kowloon.

Town Office, Queen's Buildings Telephone No. 20, Hongkong

FINDLAY & CO.

AGENTS, MANILA, P. I.

W. F. STEVENSON & CO., LTD.

ILOILO MANILA CEBU

MERCHANTS

STEAMSHIP AGENCIES

PENINSULAR AND ORIENTAL STEAM NAVIGATION CO., OSAKA SHOSEN KAISHA (IN CONNECTION WITH THE CHICAGO MILWAUKEE & ST. PAUL AND THE CHICAGO MILWAUKEE AND PUGET SOUND RAILWAYS), "BEN" LINE OF STEAMERS, "INDRA" LINE OF STEAMERS.

INSURANCE AGENCIES

LIFE, STANDARD LIFE ASSURANCE CO.—FIRE, NORWICH UNION FIRE INSURANCE SOCIETY LTD., SCOTTISH UNION & NATIONAL INSURANCE CO., YORKSHIRE INSURANCE CO., LTD.—MARINE, MARINE INSURANCE CO. LTD., STANDARD MARINE INSURANCE CO. LTD. :

4 MUELLE DEL REY, MANILA, P. I.

Johnson-Pickett Rope Co.

PURE MANILA ROPE

MADE WITH LATEST IMPROVED ROPE MACHINERY

Average Breaking Load After Three Tests:

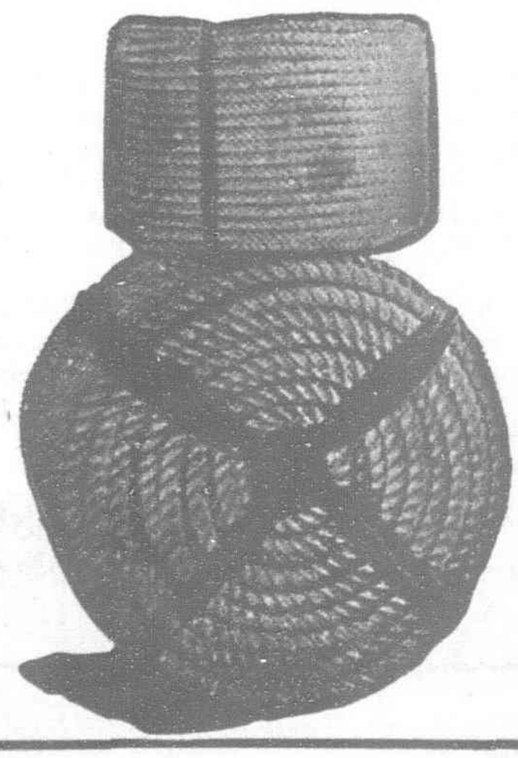
2 Inch Rope Circumference..... 4,037 Pounds
3½ " " " ..... 16,670 "
5 " " " ..... 23,728 "

Factory and Salesroom.
Cor. Vives and Lara, Murallon,
San Nicolas, Manila, P. I.

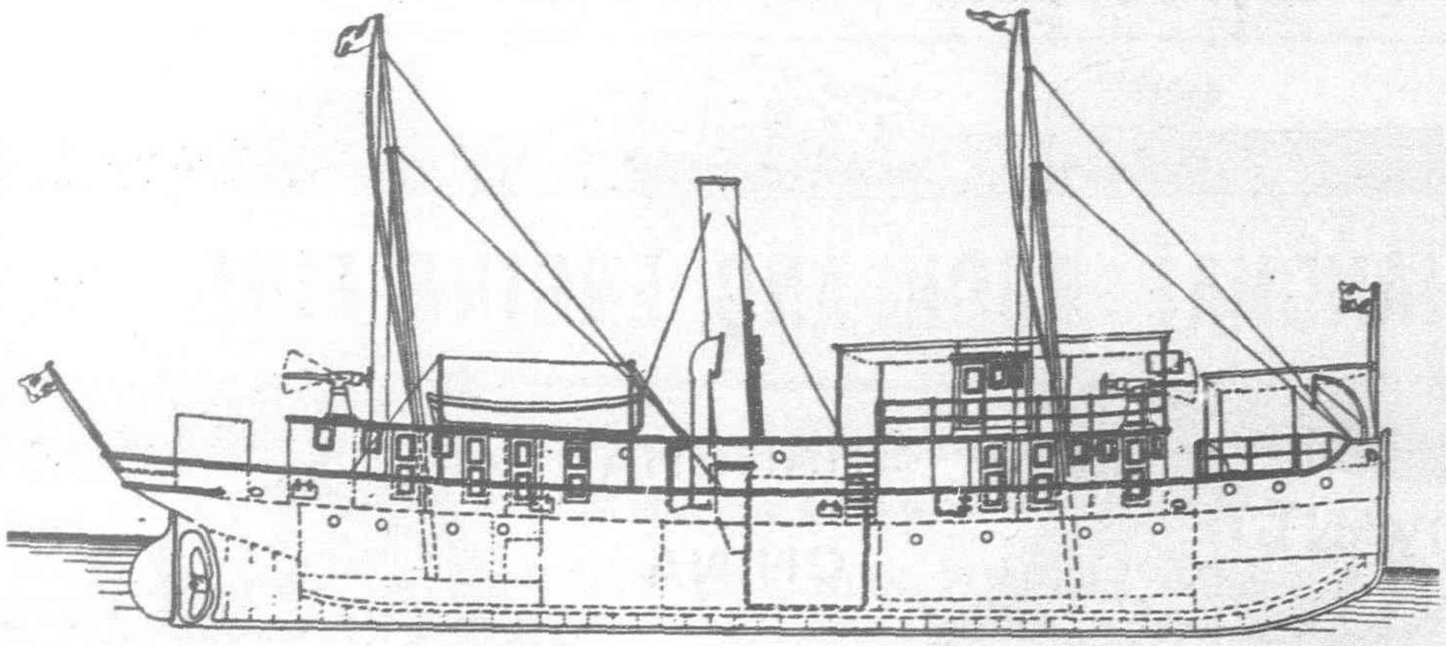
TELEPHONE
1123

Cable Address: SANTAROPE
Code: Western Union, Universal Edition.

CORRESPONDENCE SOLICITED



ENGINEERS, MACHINISTS and FOUNDERS



SHIPBUILDERS, BOILERMAKERS ELECTRICIANS

I. C. M.'S GUNBOAT "KAI-HAI" BUILT BY THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD. SHANGHAI, FOR SERVICE IN NORTH CHINA: SPEED, 11 KNOTS

COAST AND RIVER STEAMERS, TUGBOATS, LAUNCHES, LIGHTERS, PONTOONS, SHALLOW DRAFT SIDE OR STERN WHEEL STEAMERS. ENQUIRIES SOLICITED. PLANS, SPECIFICATIONS AND ESTIMATES FURNISHED. ALL CLASSES OF ENGINEERING WORK UNDERTAKEN

THE NEW ENGINEERING AND SHIPBUILDING WORKS, LTD.

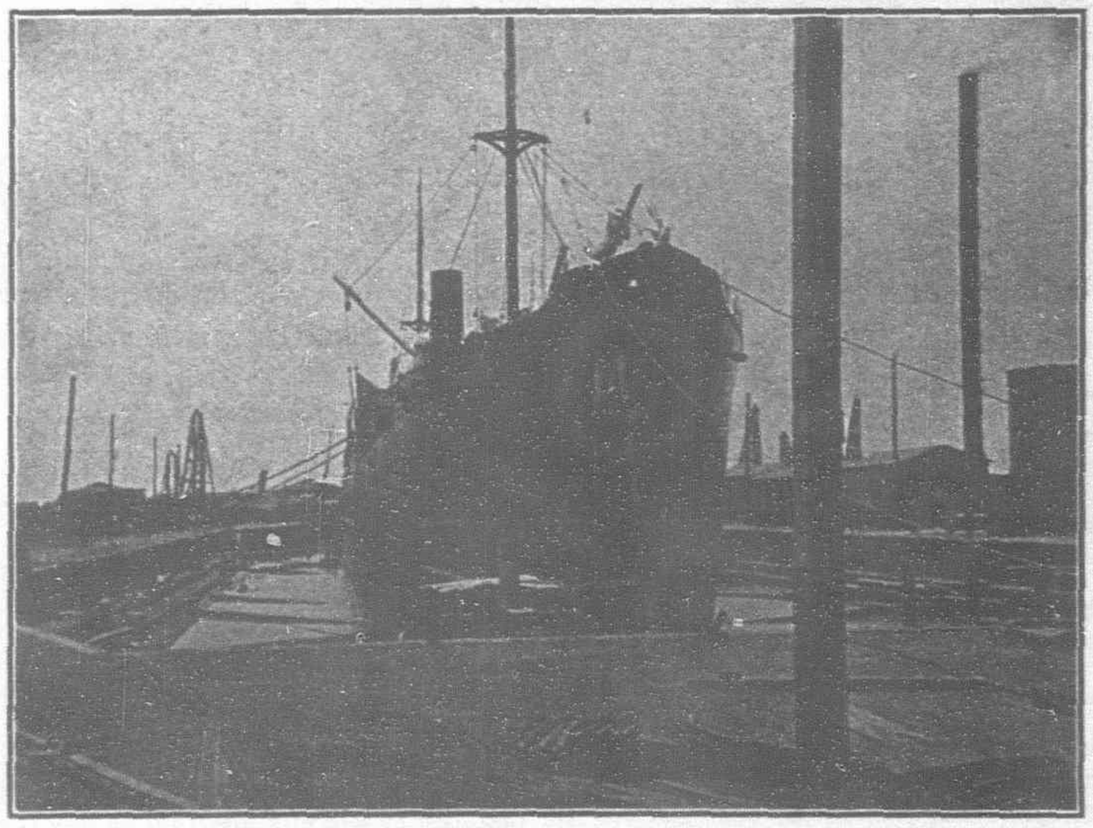
SHANGHAI

PROPRIETORS OF THE

YANGTSZEPOO DOCK

THE DOCK, WORKS AND OFFICE ARE LOCATED ON THE SHANGHAI SIDE OF THE RIVER, 15 MINUTES BY ELECTRIC TRAM FROM HEART OF THE CITY

THE WORKS ARE EQUIPPED WITH THE MOST MODERN MACHINERY, CAPABLE OF HANDLING THE LARGEST MARINE ENGINEERING WORK



VIEW OF YANGTSZEPOO DOCK

PARTICULARS OF DOCK

LENGTH ON BLOCKS 455'0"
" OVERALL - 469'0"
WIDTH, ENTRANCE 74'0"
" SILL - - 64'0"
DEPTH ON SILL, (H. W. O. S. TIDES) - - - 21'0"
DEPTH ON 3'0" BLOCKS (H. W. O. S. TIDES) 19'0"

PUMPS CAN EMPTY DOCK WITHOUT VESSEL IN, IN 3½ HOURS.

WORKSHOPS LOCATED AT HEAD OF DOCK

OFFICE, DOCK & WORKS, 37 YANGTSZEPOO ROAD, SHANGHAI

TELEGRAPHIC ADDRESS: "SPEEDY." CODE: A.B.C., 5TH EDITION TELEPHONE 703. MANILA AGENT, F. L. STRONG

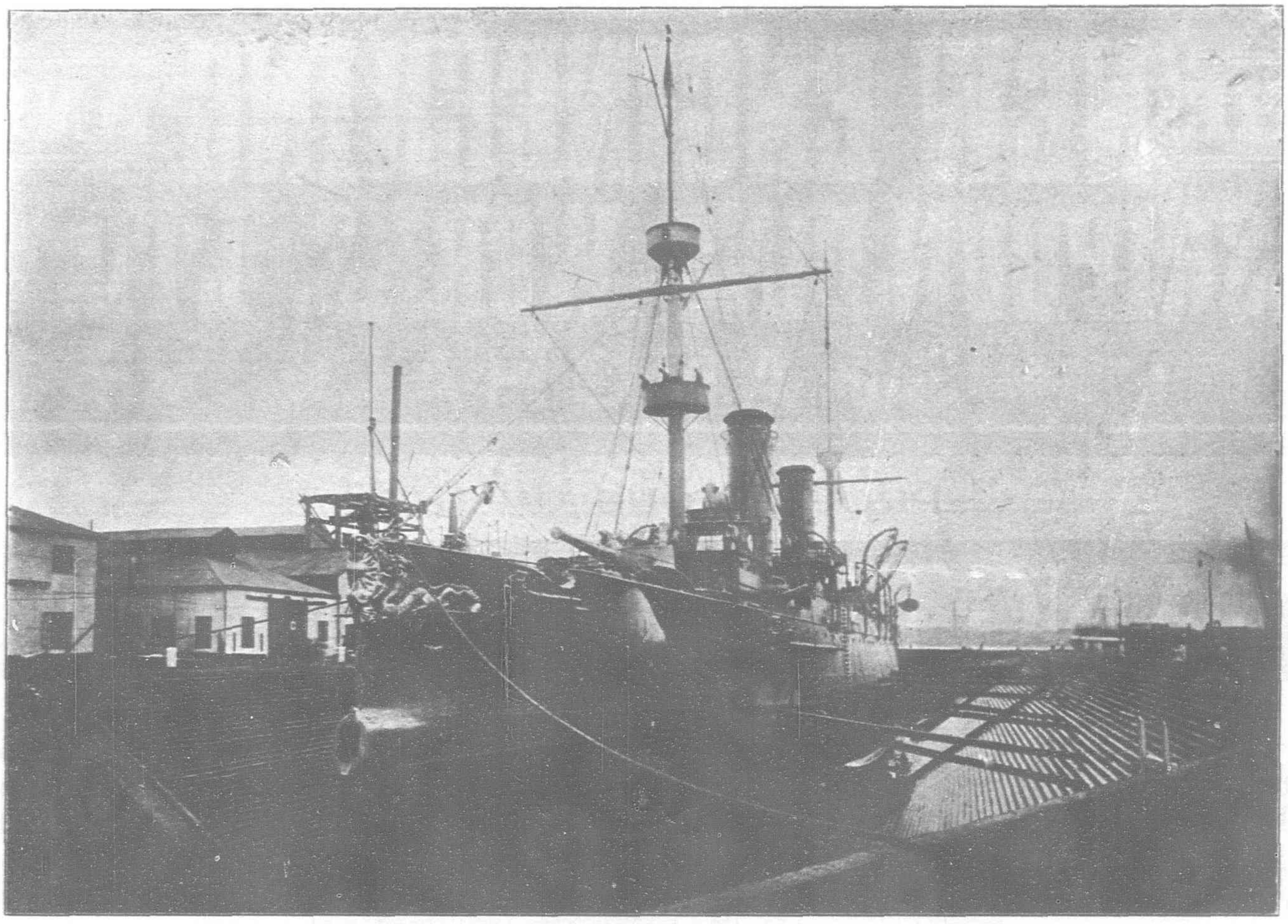
THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

DOCK OWNERS ENGINEERS SHIP BUILDERS IRON FOUNDERS

SHANGHAI
CHINA

Cable Address:
"FARNHAM," SHANGHAI

Codes Used:
A I., A B C (4th & 5th Editions)
Watkin's, Scott's, Western Union and Engineering



The HAI-CHI in the "OLD DOCK" of the Shanghai Dock & Engineering Co., Ltd.

The Docks are five in number, ranging in length from 360 feet to 560 feet, and breadth of entrance from 57 feet to 82 feet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive Shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by Electric light with railway lines through workshops and yards.

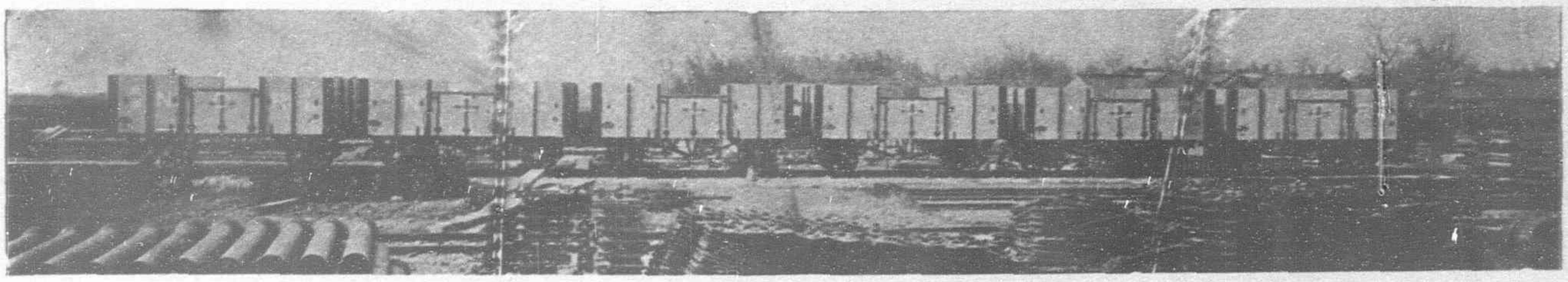
Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

CORRESPONDENCE INVITED



TYPE OF HIGH SIDE GOODS WAGONS

CONSTRUCTED BY THE VULCAN IRONWORKS, LTD., FOR THE NANKING CITY RAILWAY

Railway Coaches and Goods Wagons Assembled
Structural Steel Work Erected

ESTIMATES given for every description of Engineering and Constructional work and repairs, including supplying and installing of HOT WATER and STEAM HEATING in all its branches and HOT and COLD WATER SUPPLIES.

THE WORKS are electrically driven, and are equipped throughout with up-to-date machinery and labour saving devices, including an HYDRAULIC PLANT, and appliances to undertake constructing or repairing SHIPS, ENGINES, BOILERS, etc.

EXPERIENCED EUROPEAN STAFF SUPERVISES ALL BRANCHES OF WORK

VULCAN IRONWORKS, Ltd.

ENGINEERS, SHIPBUILDERS, BOILERMAKERS, ELECTRICIANS, IRON AND BRASS FOUNDERS, ETC.

Office and Works: 45 YANGTSZEPOO ROAD, SHANGHAI

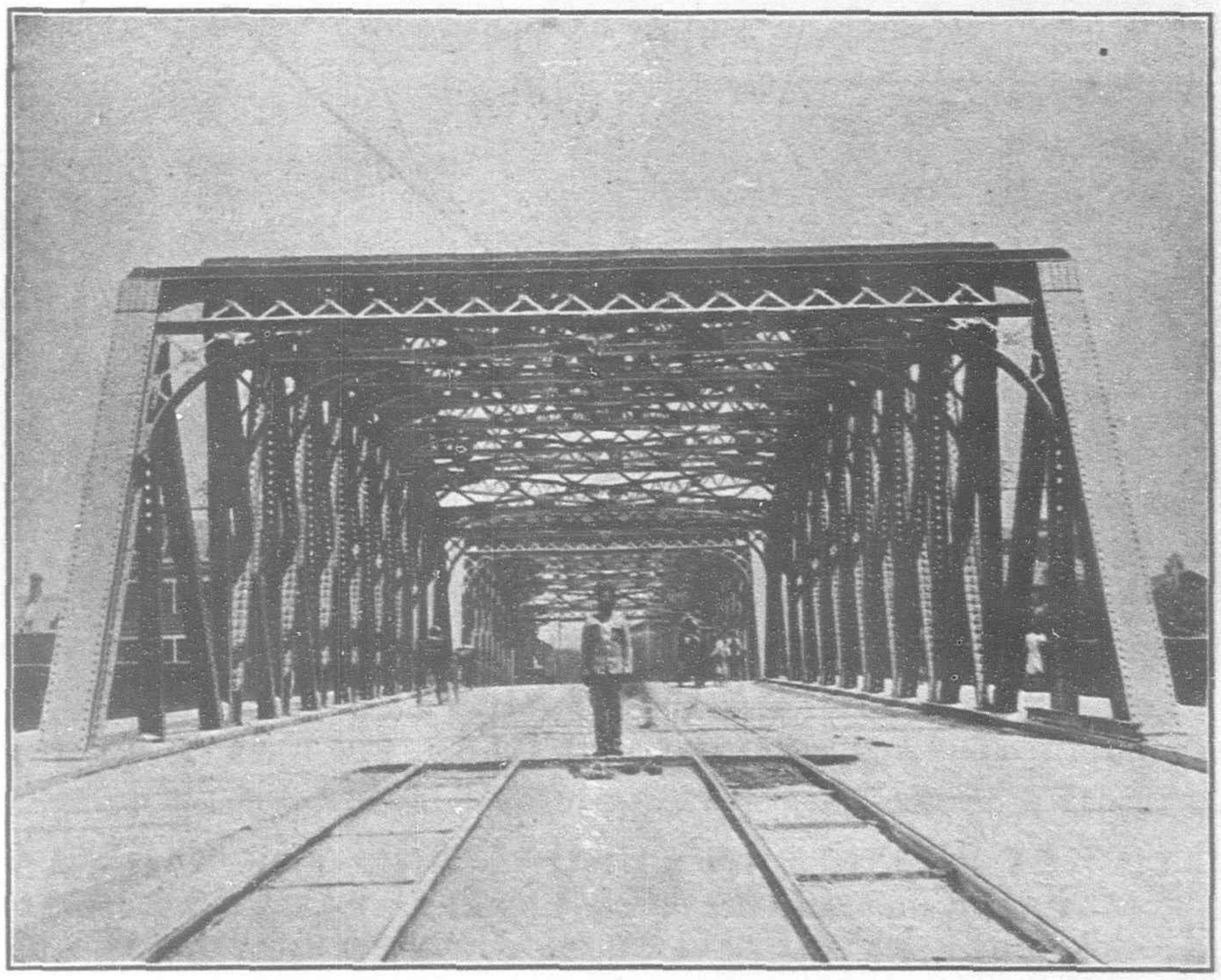
PATTON'S IRONHIDE PAINT

A PROTECTIVE

COATING FOR IRON AND STEEL

PREVENTS CORROSION CAUSED BY DAMPNESS, SULPHUROUS FUMES AND OTHER DELETERIOUS GASES

Tough
Elastic
Durable



THE RUSTLESS COATING FOR

STRUCTURAL IRON WORK, STEEL CARS, TRAIN SHEDS, IRON PARTS OF ROLLING STOCK

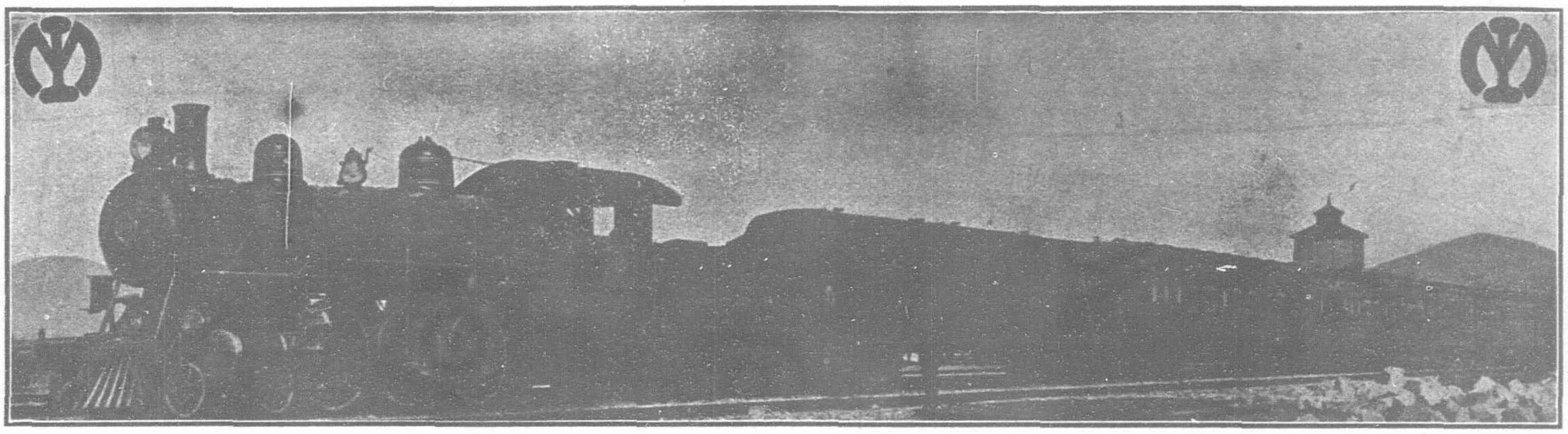
BRAKE RODS, TRUSS RODS, TRUCKS, AND BRIDGES, SUBJECTED TO SEVERE VIBRATORY STRAINS, SHOULD ALWAYS BE COATED WITH PATTON'S

"IRONHIDE"

FEARON, DANIEL & CO.

Sole Agents for
CHINA, HONGKONG, JAPAN AND PHILIPPINES

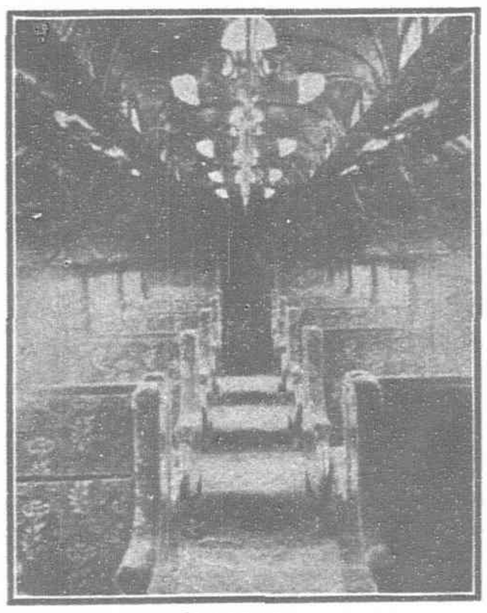
SHANGHAI, NO. 9 FOOCHOW ROAD



South Manchurian Railway

From Dairen	Time Required
To Changchun	15½ hours
,, Harbin	25 ,,
,, St. Pet'burg (via Viatka)	10 days.
,, Berlin	11 ,,
,, Paris	12 ,,
,, London	12½ ,,

SHORTEST, QUICKEST AND CHEAPEST ROUTE BETWEEN THE FAR EAST AND EUROPE VIA DAIREN



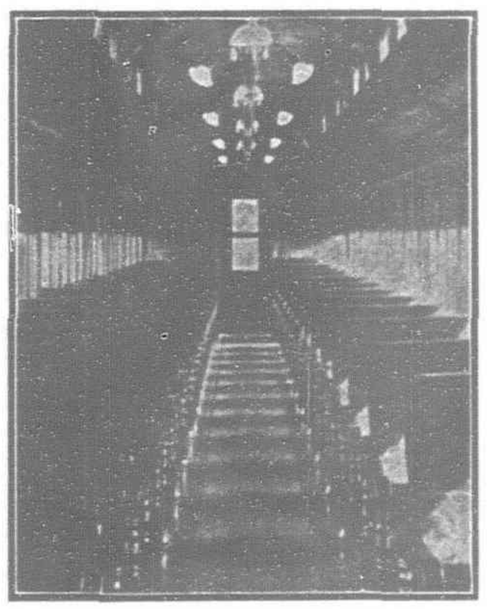
SLEEPER

4 TIMES WEEKLY EXPRESS TRAINS

Composed of excellently equipped SLEEPING, DINING and 1st CLASS CARS, are operated between DAIREN & CHANGCHUN in connection with the TRANS-SIBERIAN ROUTE and SHANGHAI MAIL STEAMERS.

CONNECTIONS AT MUKDEN

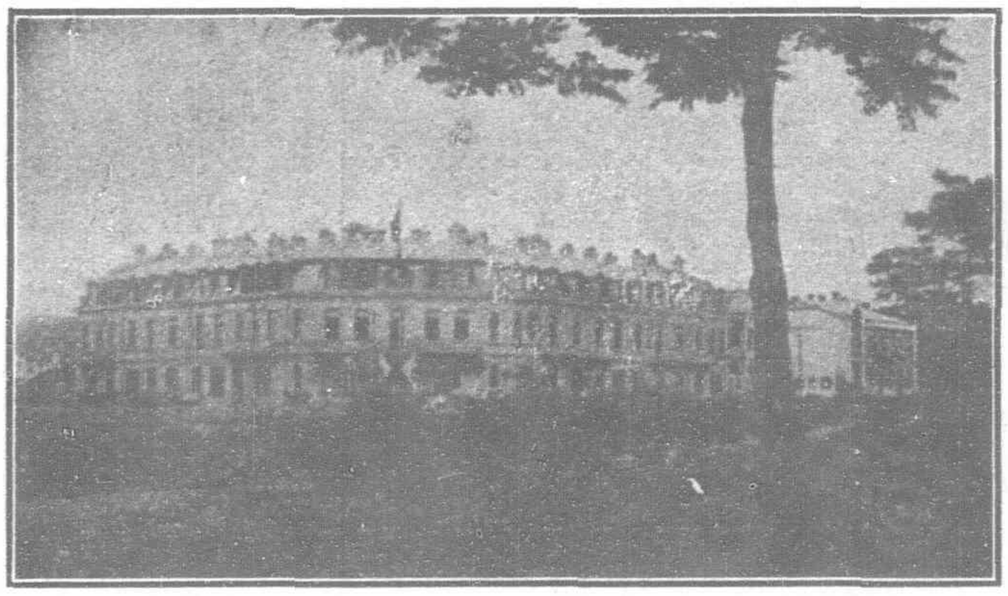
These Express Trains connect at MUKDEN with the PEKING-MUKDEN RAILWAY running via TIENTSIN and connect also with the MUKDEN-ANTUNG LINE traversing a most picturesque country and connecting with the KOREAN RAILWAY.



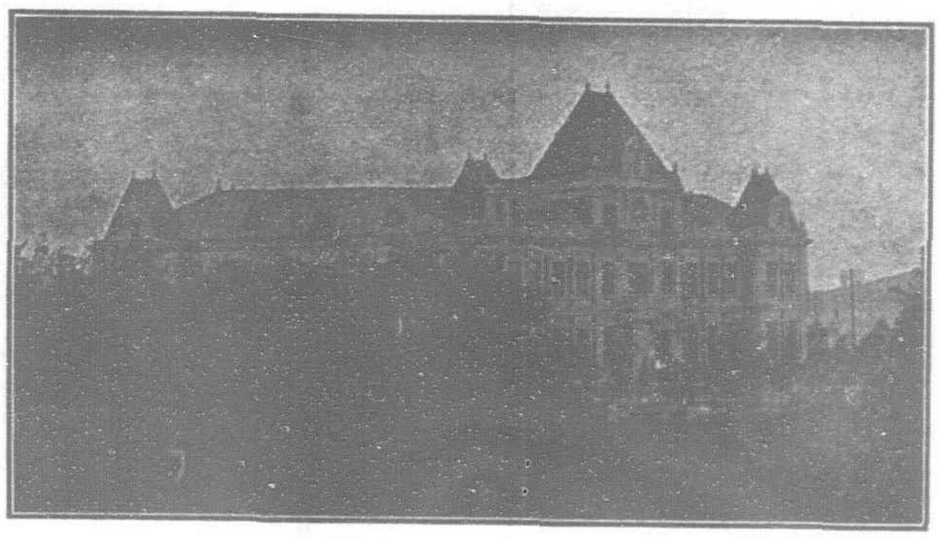
INTERIOR PULLMAN DAY COACH

OTHER STEAMER CONNECTIONS AT DAIREN

Regular Steamship Services are maintained from DAIREN to MOJI, KOBE, CHEMULPO, TIENTSIN, CHEFOO, TSINGTAU and other ports in Japan and China.



SOUTH MANCHURIA RAILWAY, YAMATO HOTEL, PORT ARTHUR



YAMATO HOTEL, DALNY

RAILWAY HOTELS

YAMATO HOTEL (Tel. Add. "Yamato") at DAIREN, PORT ARTHUR, MUKDEN, FUSHUN and CHANGCHUN all managed by the Company, provide comfortable accommodation.

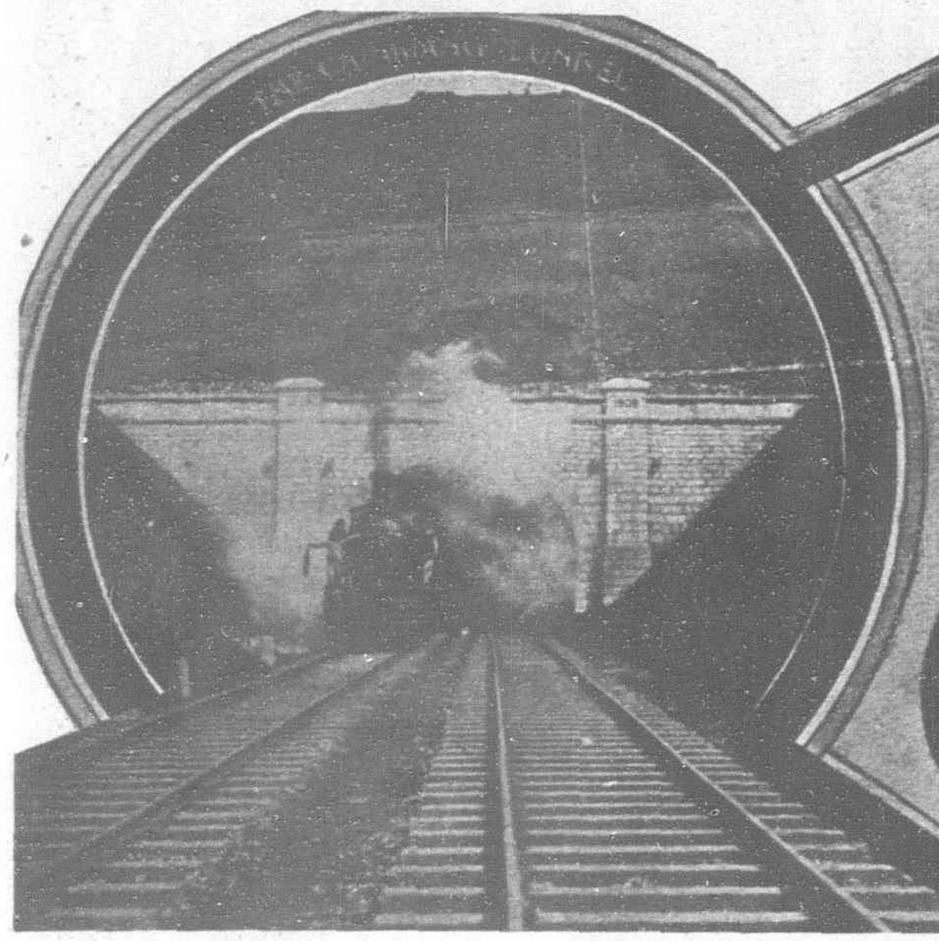
TICKET AGENTS IN EUROPE AND THE FAR EAST.

The INTERNATIONAL SLEEPING CAR & EXPRESS TRAINS CO., MESSRS. THOS. COOK & SON. & the HAMBURG AMERIKA LINIE.

SOUTH MANCHURIAN RAILWAY COMPANY

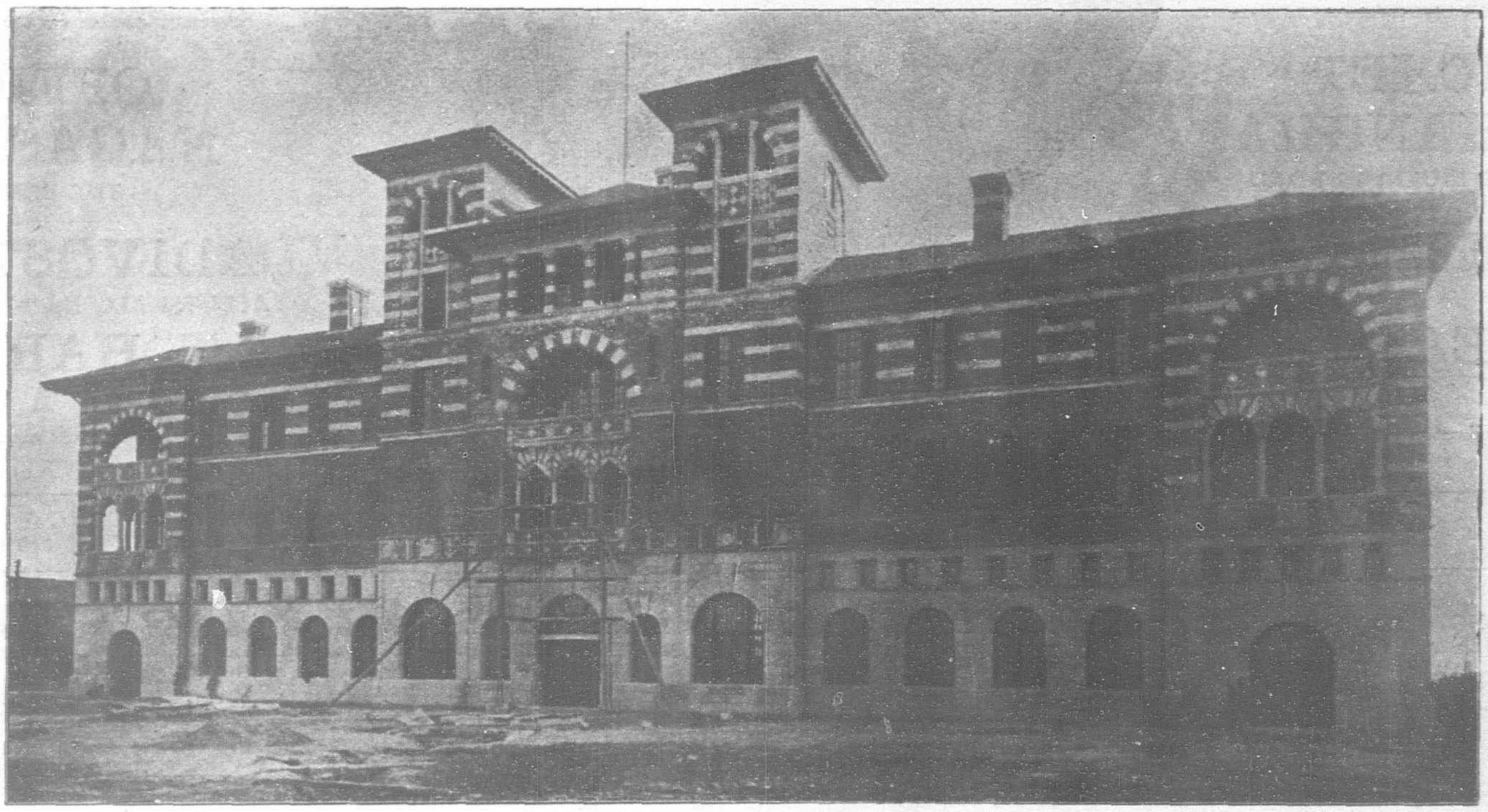
Dairen, Manchuria

Tel. Add.: "MANTETSU" -:- **Codes: A. B. C., 5th Ed., A-1 and Lieber's**



SHANGHAI NANKING RAILWAY

The Line of a Hundred Pagodas



NEW STATION AND ADMINISTRATION BUILDING AT SHANGHAI

PASSENGERS TO THE YANGTSZE RIVER PORTS SHOULD TAKE THE STEAMER AT NANKING, THUS ENJOYING A TRIP THROUGH THE INTERESTING LAND OF PAGODAS AND "THE GARDEN OF CHINA." NANKING, THE SOUTHERN CAPITAL OF CHINA, WITH ITS MANY INTERESTING SIGHTS, THE CELEBRATED MING TOMBS, AND OTHER ATTRACTIONS, CAN BE SEEN IN TWO DAYS' TRIP FROM SHANGHAI. THE FIRST AND SECOND CLASS COACHES OF THE S-N. RAILWAY COMPARE WITH THE BEST IN EUROPE OR AMERICA FOR COMFORT AND SERVICE. TWO EXPRESS TRAINS DAILY.

CHINESE EASTERN RAILWAY

STEAMER & EXPRESS SERVICE



FAR EAST — EUROPE

TICKET SHANGHAI
8 KIUKIANG ROAD

PEKING
AMBASSADOR'S STREET
HEAD OFFICES

OFFICES NAGASAKI
THE BUND

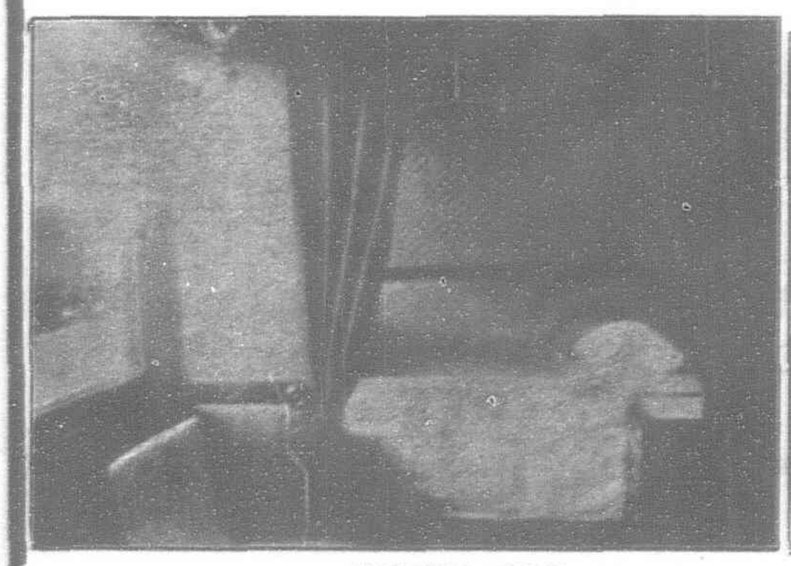
VLADIVOSTOK
ALEUTSKAIA, No. 37
AT HARBIN

STEAMER AND TRAIN TIME TABLE

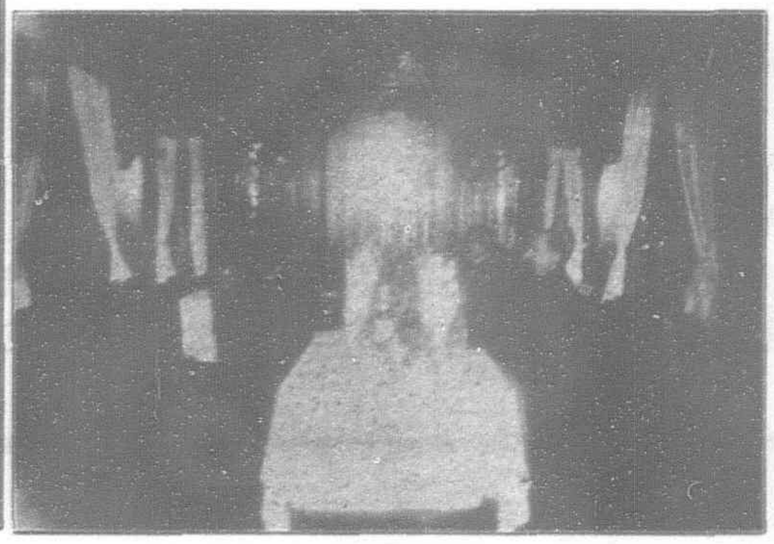
STEAMERS				TRAINS			
DEPARTURE	ARRIVAL AT VLADIVOSTOCK		Free Time Between the Arrival of Steamer and Departure of Train	DEPARTURE FROM VLADIVOSTOK	ARRIVE IRKUTSK	ARRIVE MOSCOW	ST. PETERSBURG
				(Harbin Time)	(St. Petersburg Time)		
SHANGHAI Saturday*.....	Thursday,	9.00	31.25 hours	Friday, 4.25.....	Tuesday, 1.29...	....	Monday, 6.00
NAGASAKI Monday, 6.00.....	do	do	31.25 "	Friday, 4.25.....	Tuesday, 1.29...	.....	Monday, 6.00
TSURUGA {Saturday / Thursday} 5.00	{Monday / Saturday}	11.00 {..... / .....}	29.25 "	{Tuesday / Sunday} 4.25..	Saturday, 1.29.. / Thursday, 1.29..	Friday, 7.06..... / Wed., 7.05.....	. . ..

The hours of departure depend upon the tide. The express trains of the Chinese Eastern Ry. Co. leave Vladivostock on Fridays and Sundays. The express leaving on Fridays connect at Irkutsk with the express State trains running between Irkutsk and St. Petersburg via Vologda-Viatka. The Chinese Ry. Co.'s expresses consist of luggage car, restaurant car, two second and one first class cars, and are provided with a 1st class kitchen and servants speaking English and French.

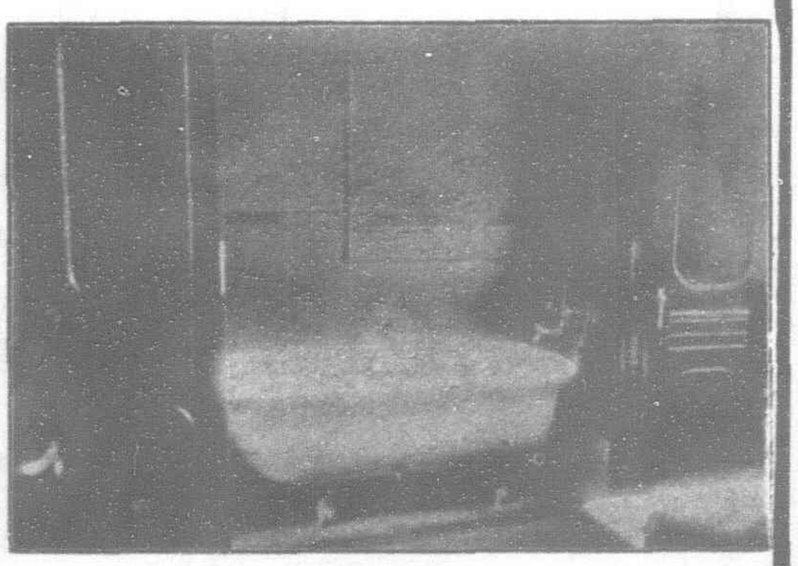
THE COMFORTS OF THE CHINESE EASTERN EXPRESS



SLEEPING ROOM

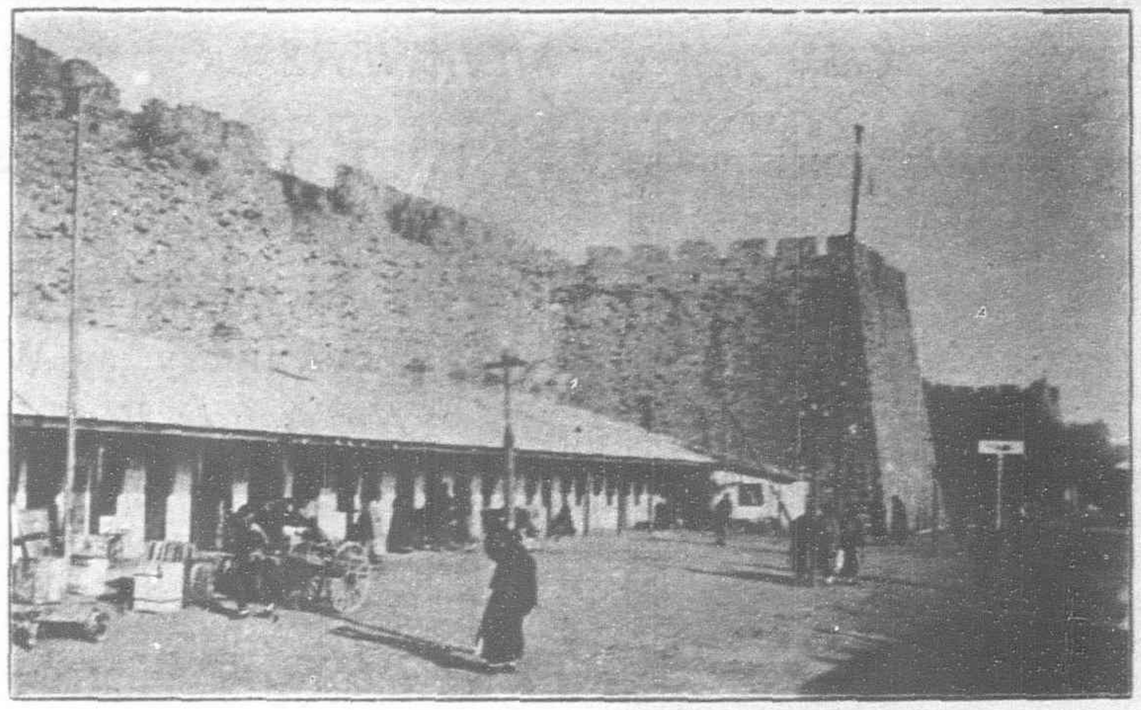


DINING CAR



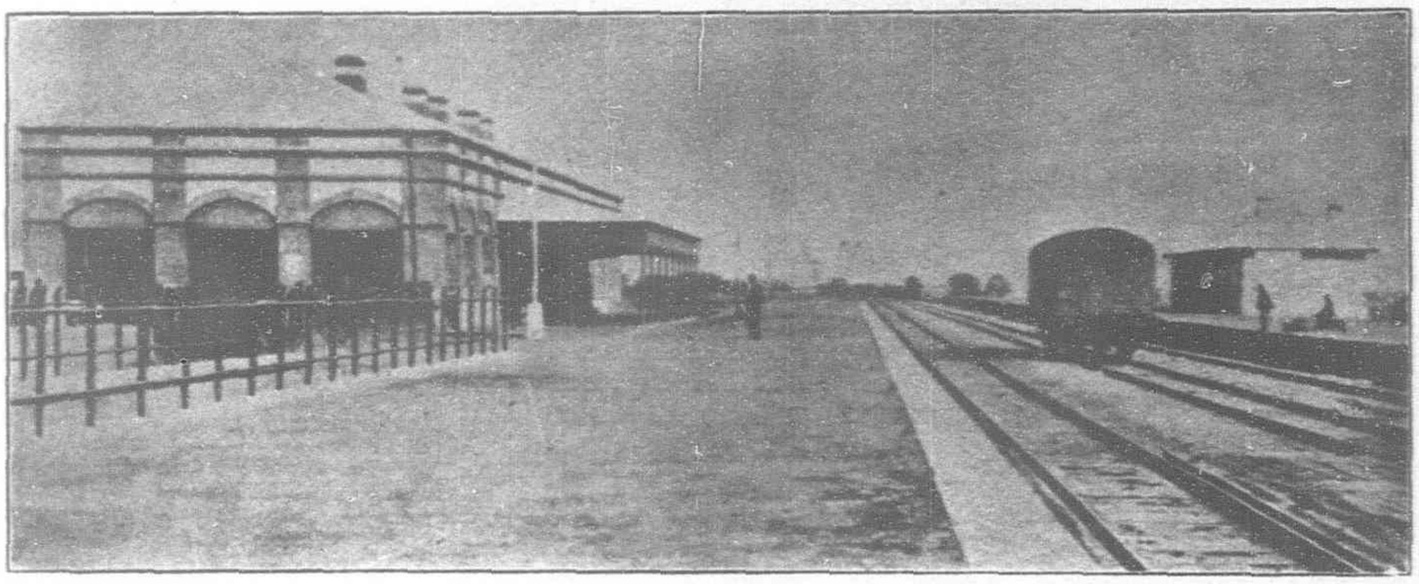
BATH ROOM

IMPERIAL RAILWAYS OF NORTH CHINA



PEKING TERMINAL STATION.

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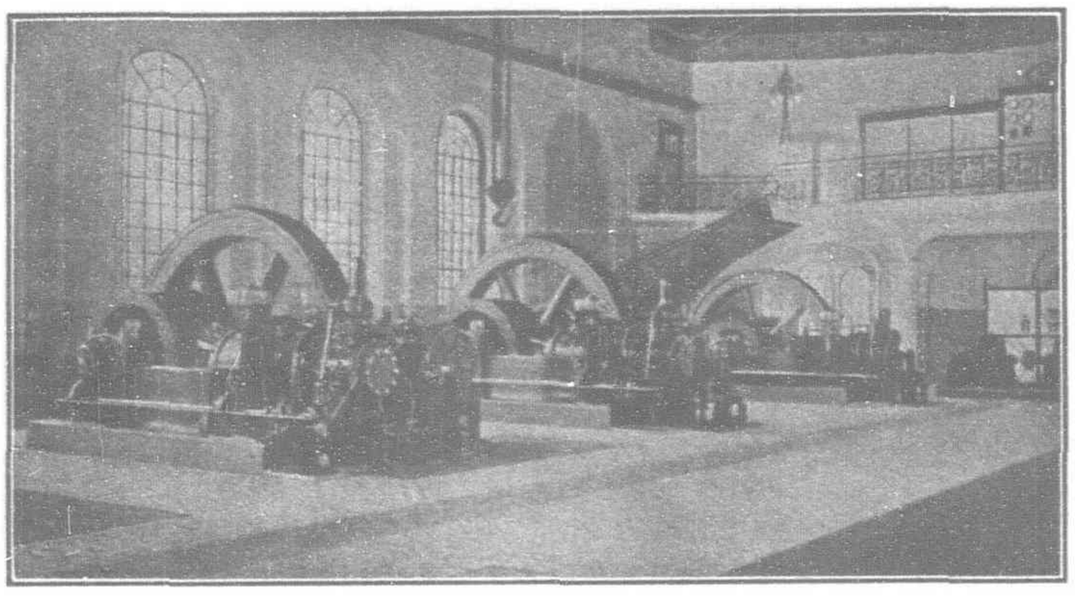
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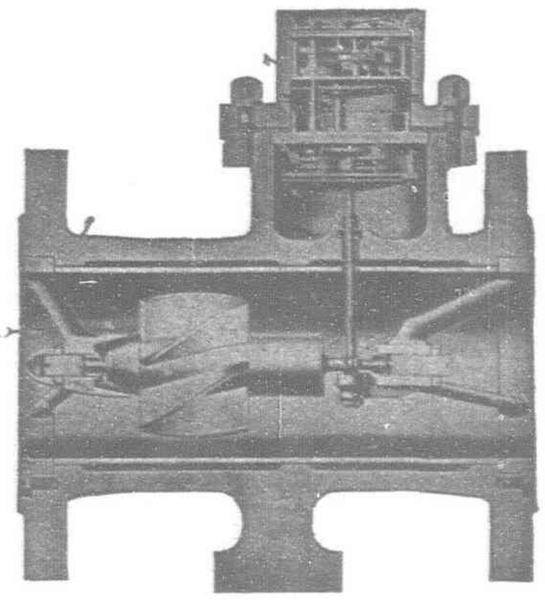
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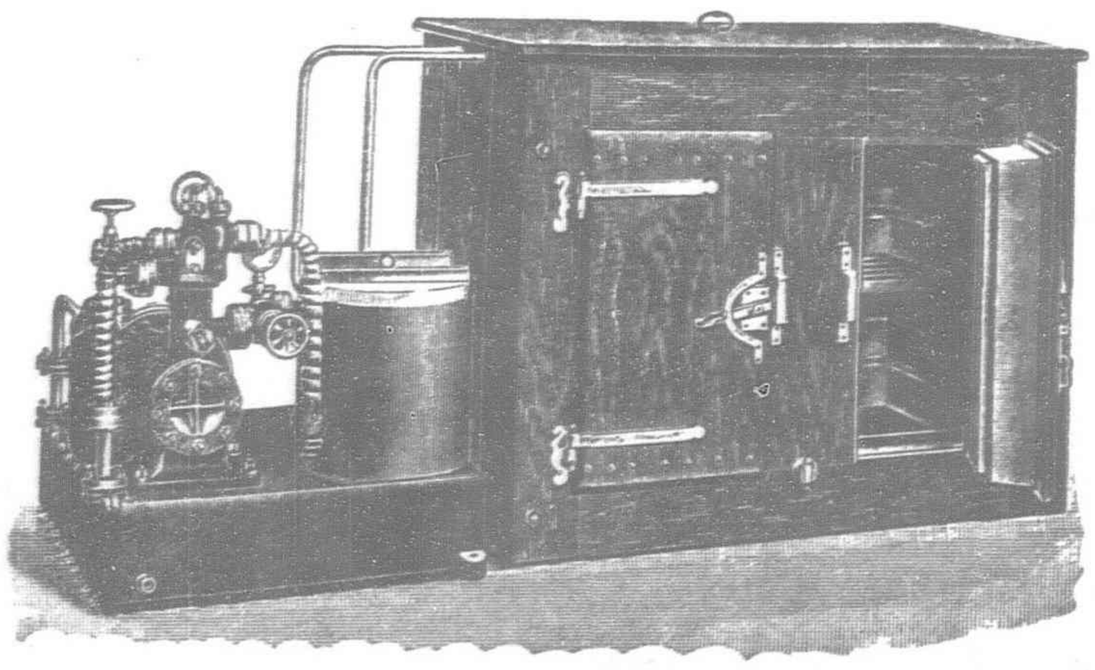


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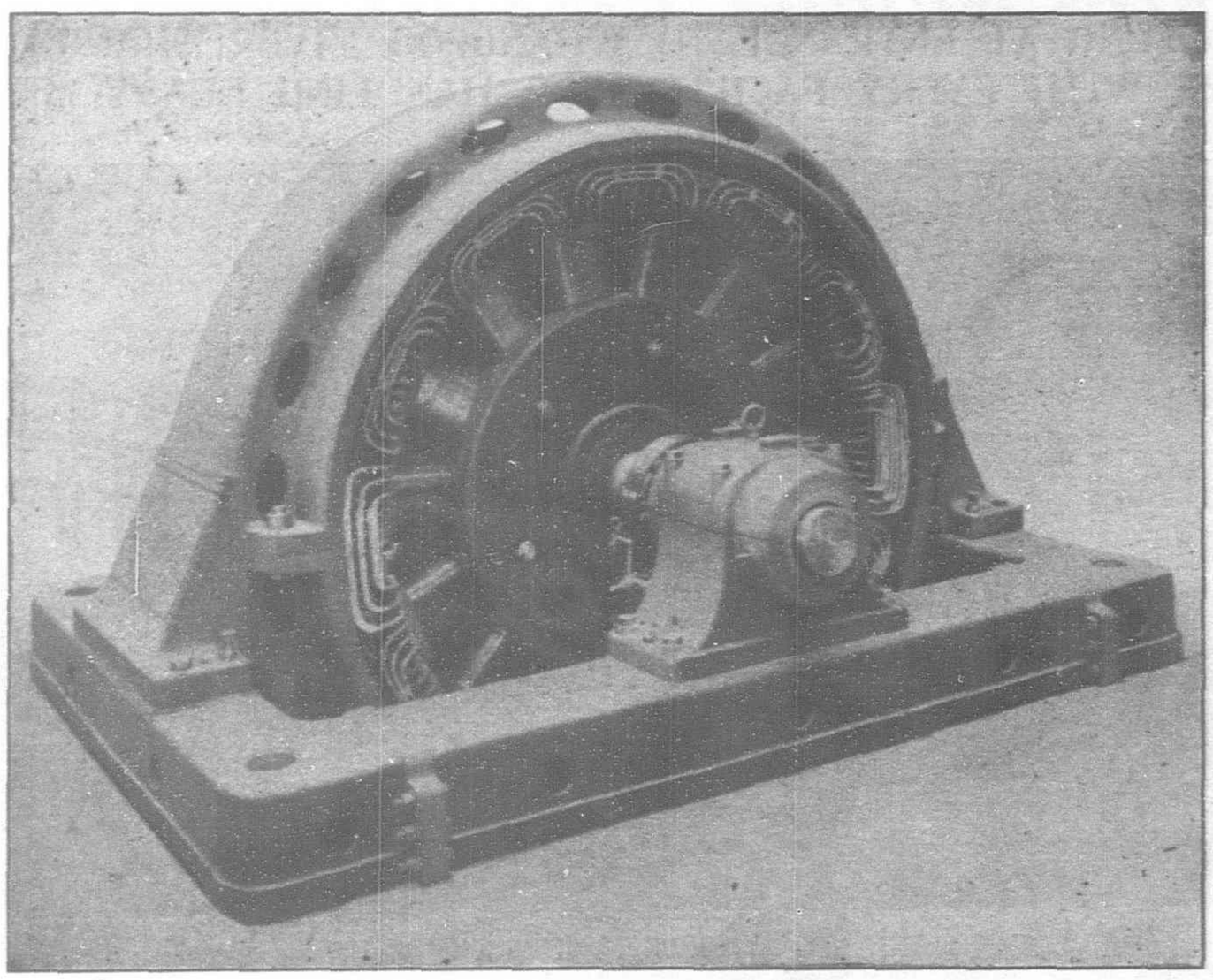
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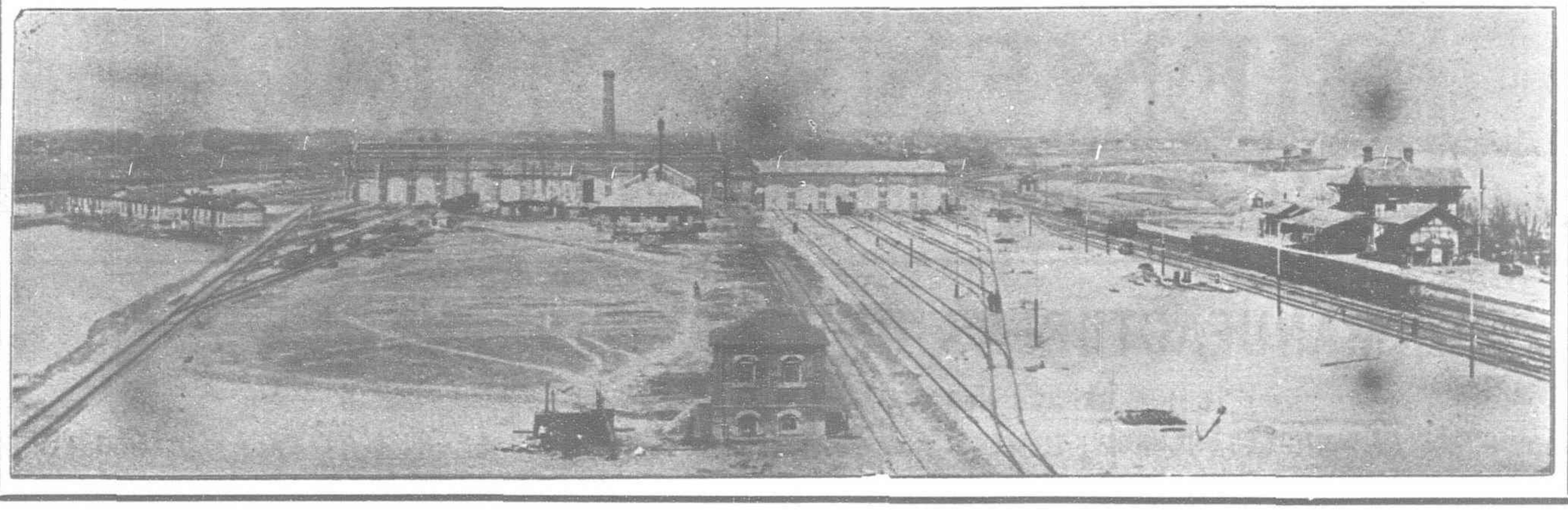
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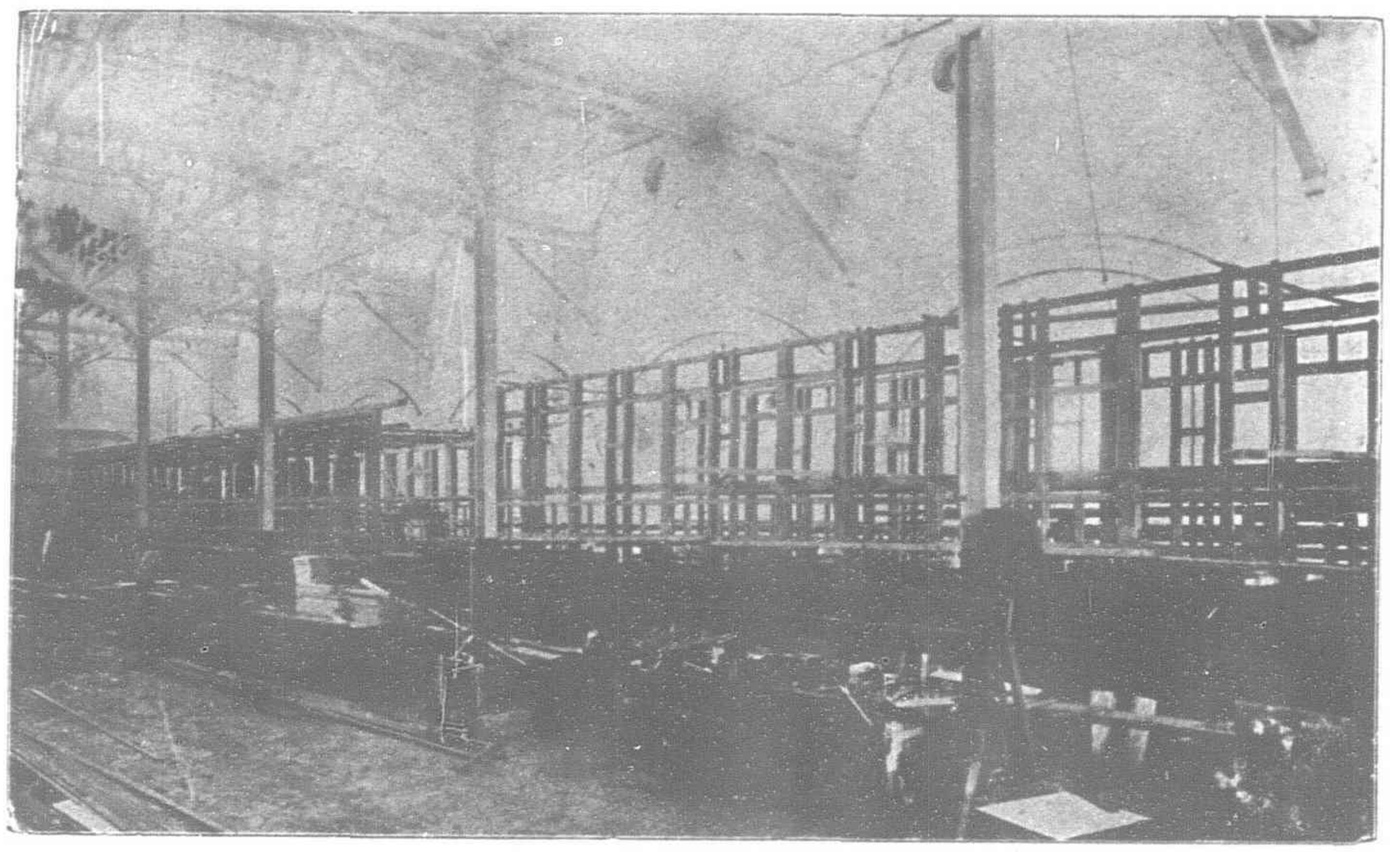


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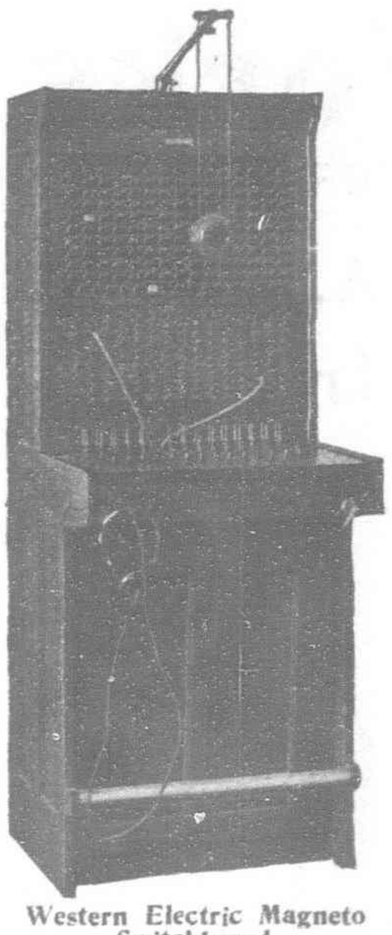
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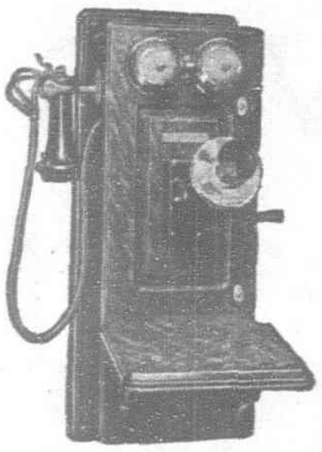
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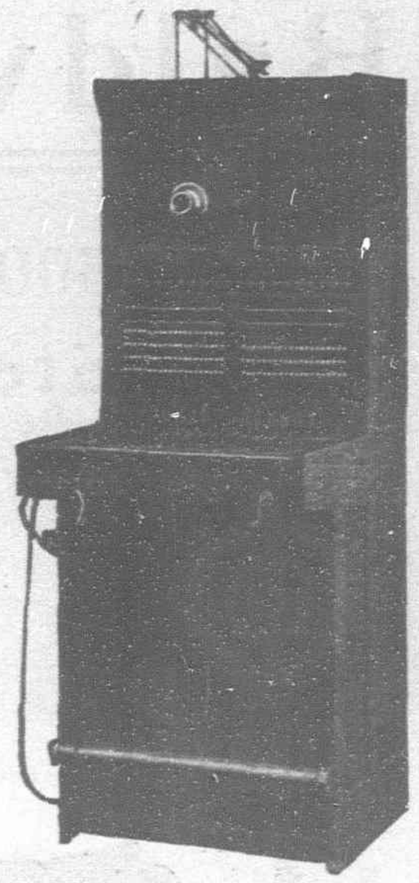


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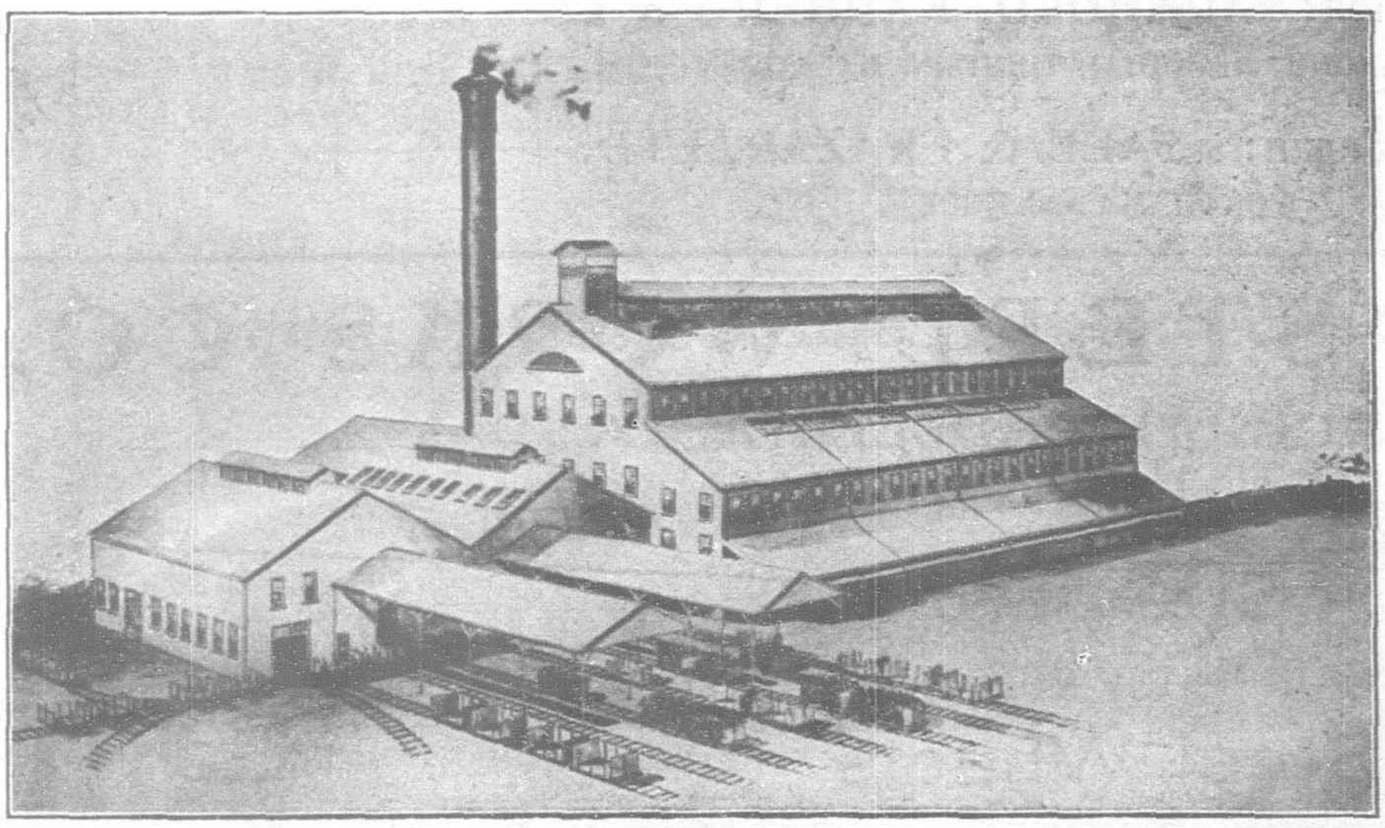
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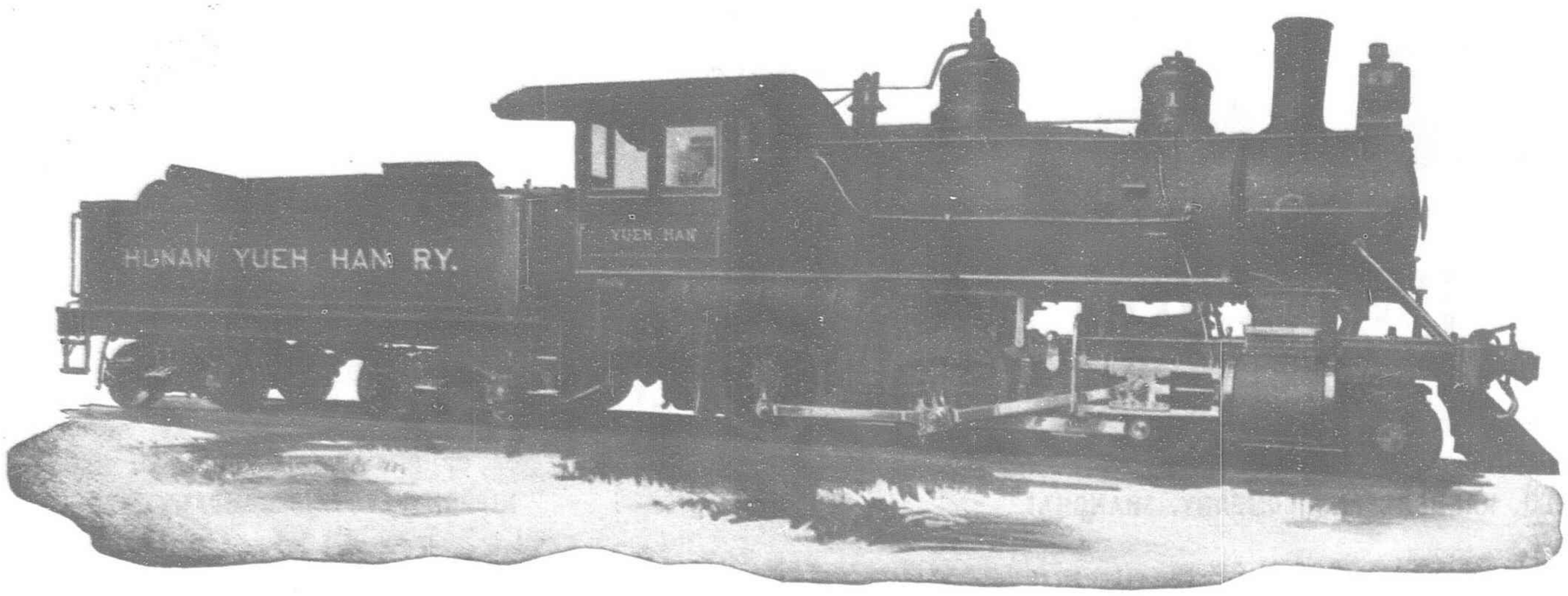
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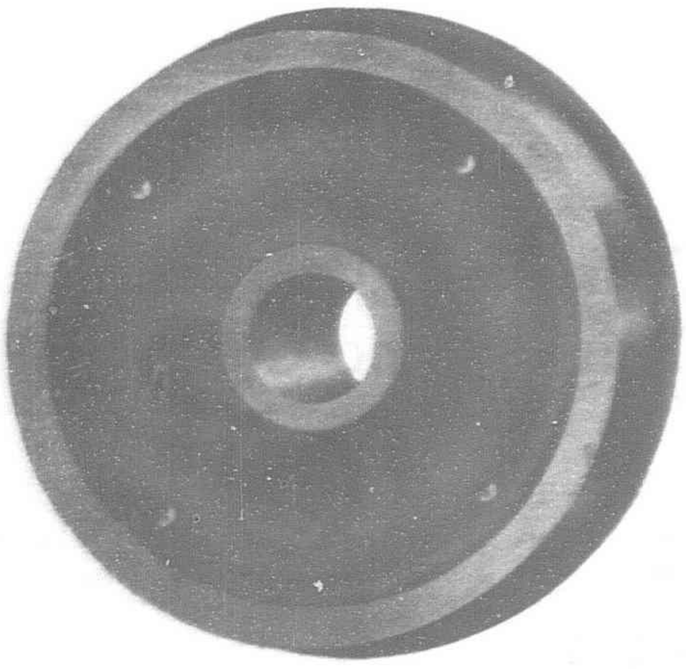
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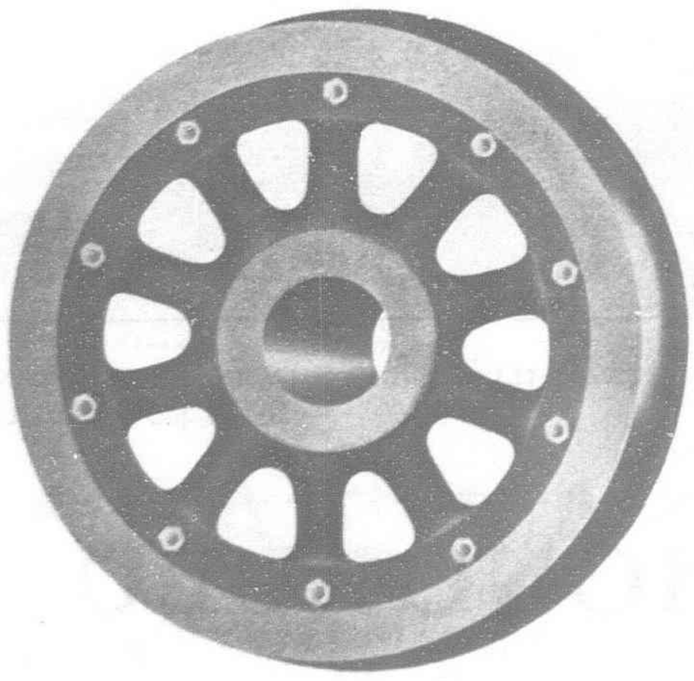
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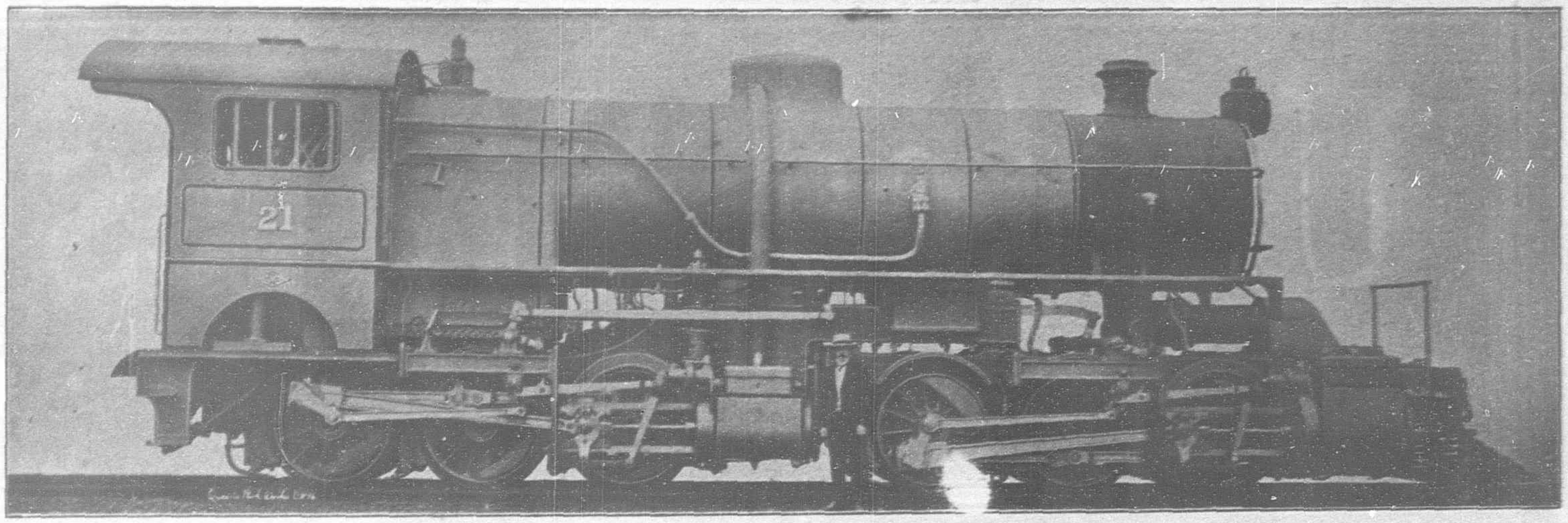
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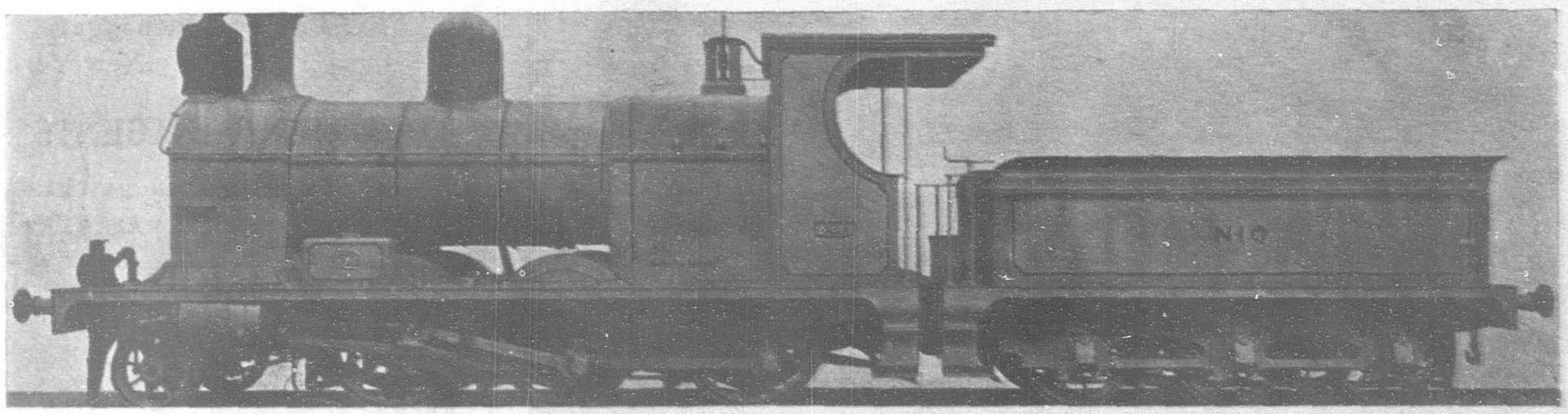
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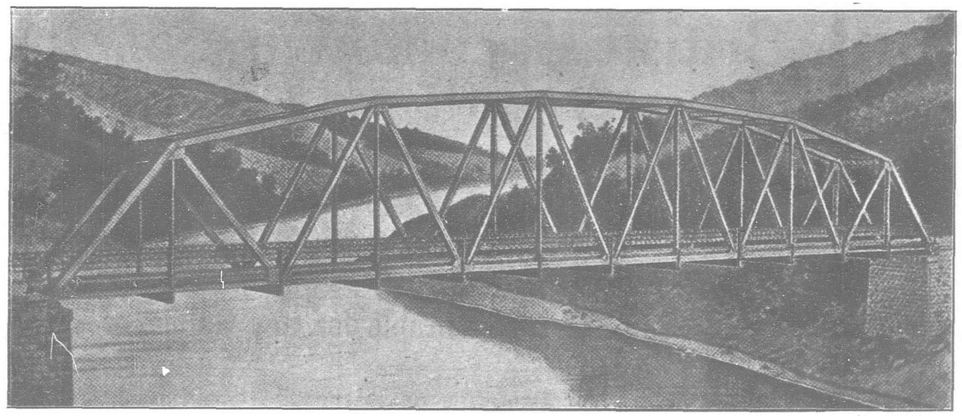
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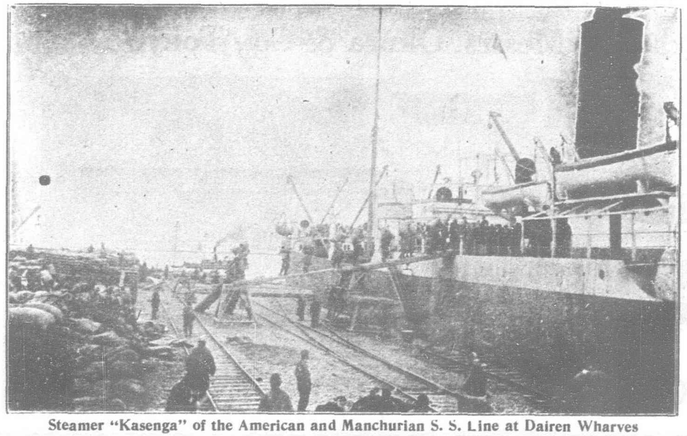
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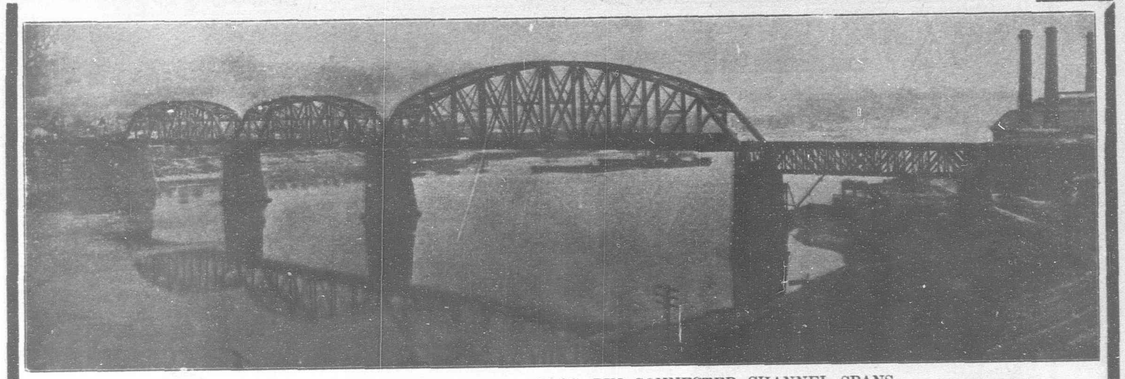
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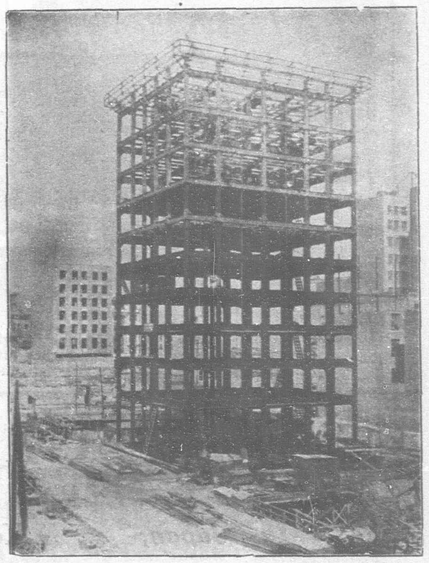
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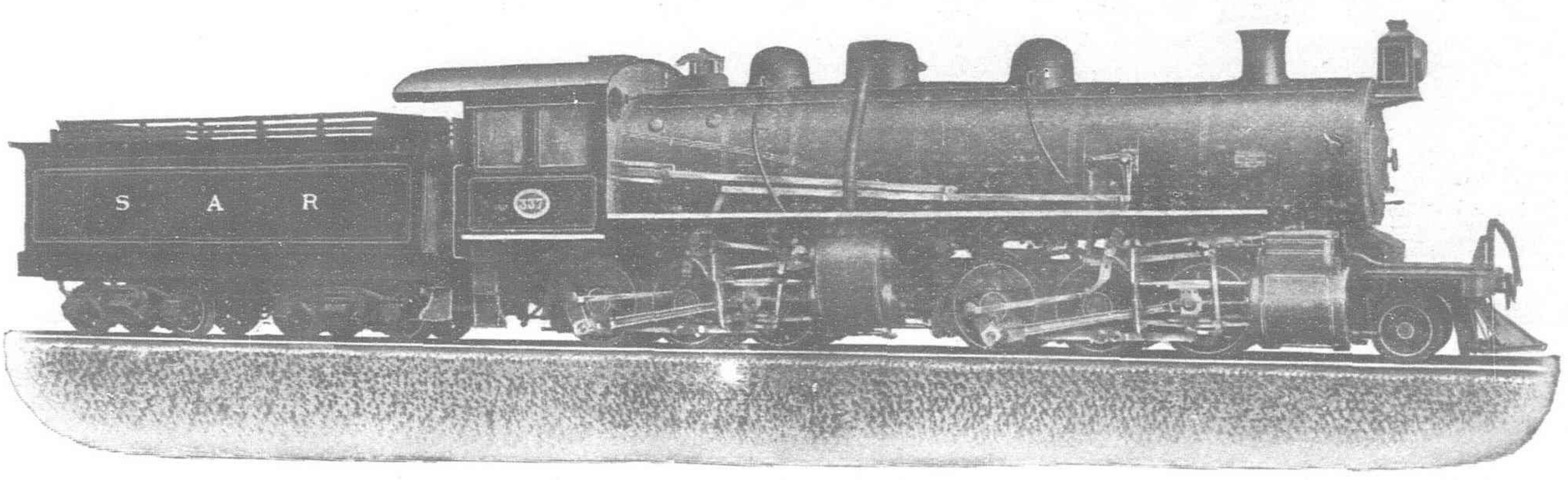
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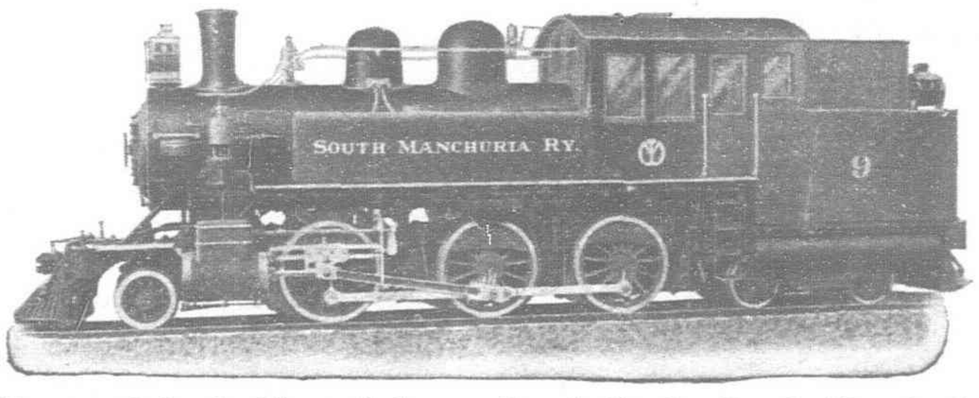


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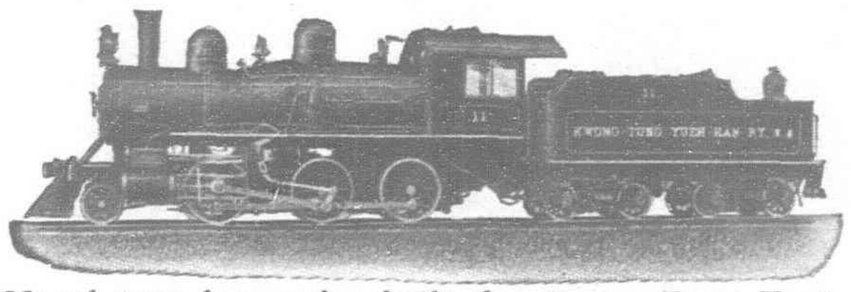
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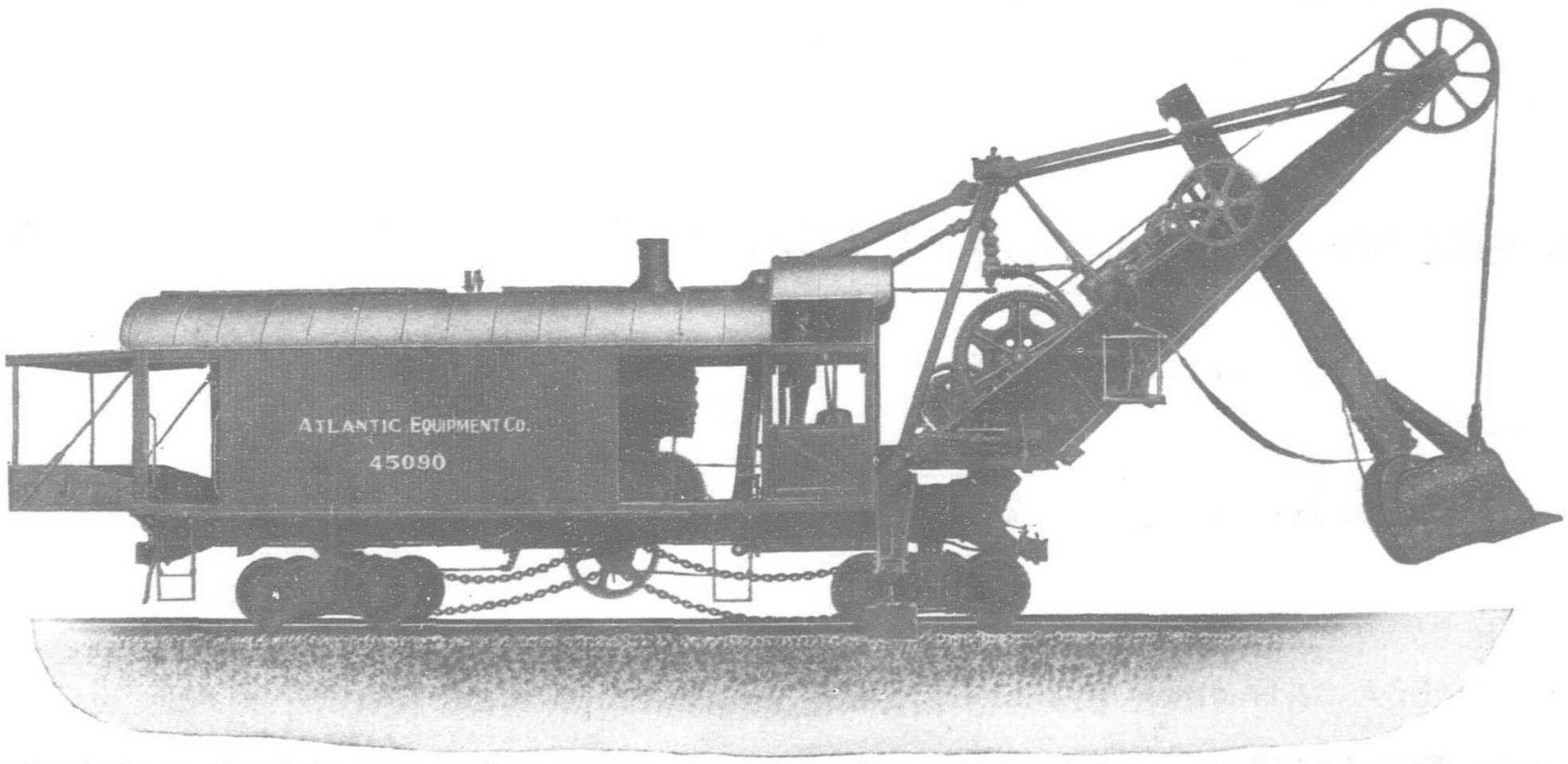
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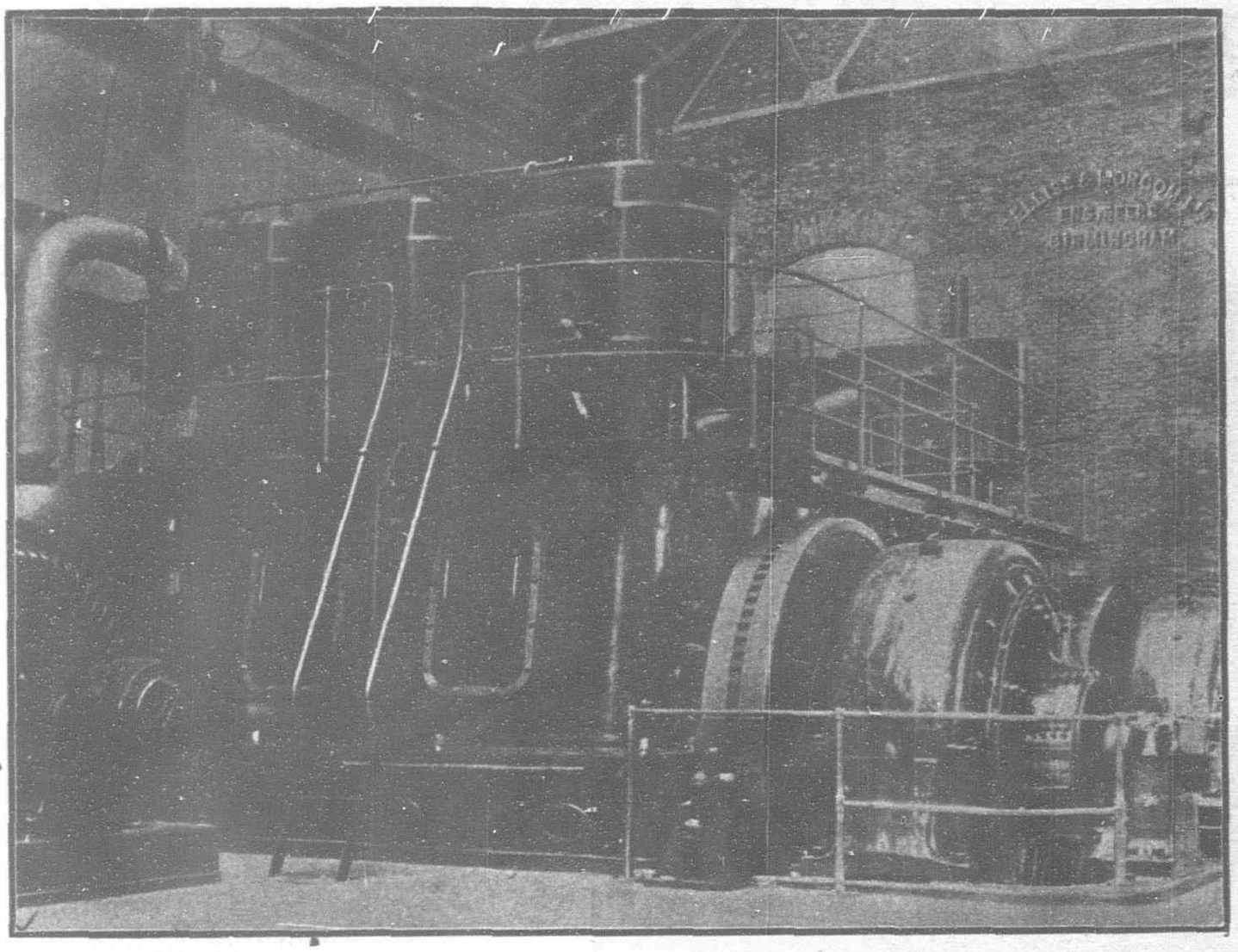
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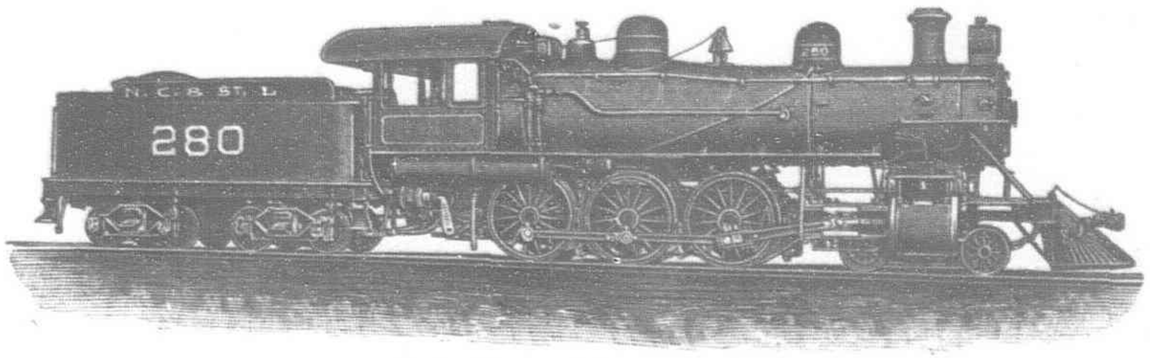
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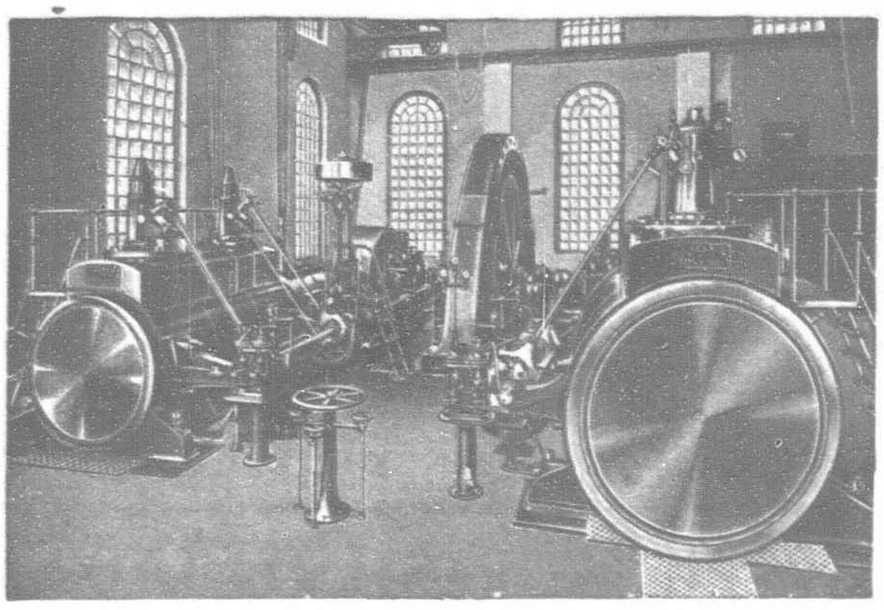
The Gould Coupler Co., New York.

WELL DRILLING MACHINERY.

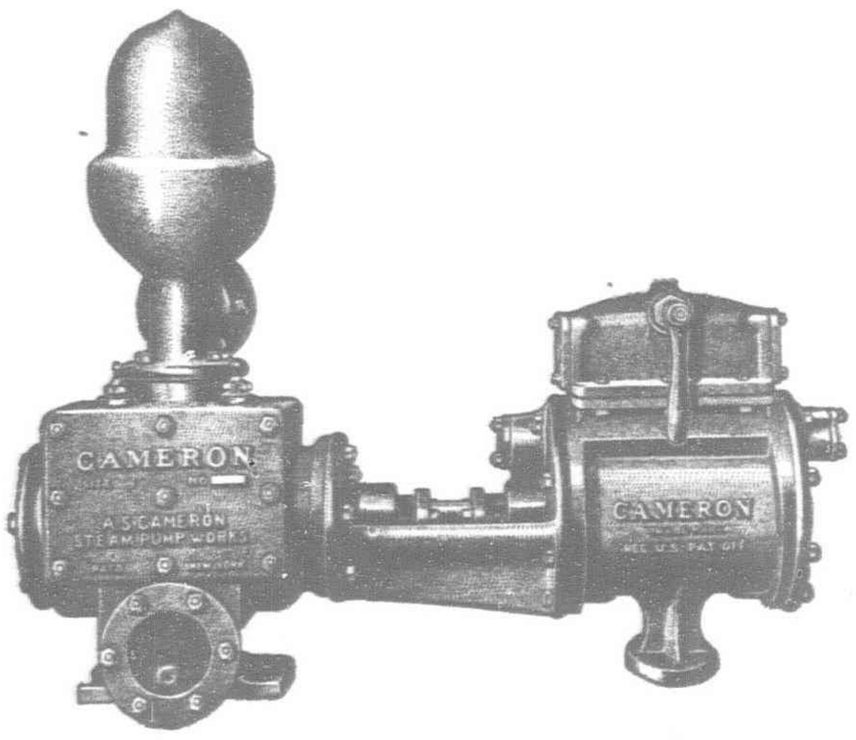
Star Drilling Machine Co., Akron, Ohio.

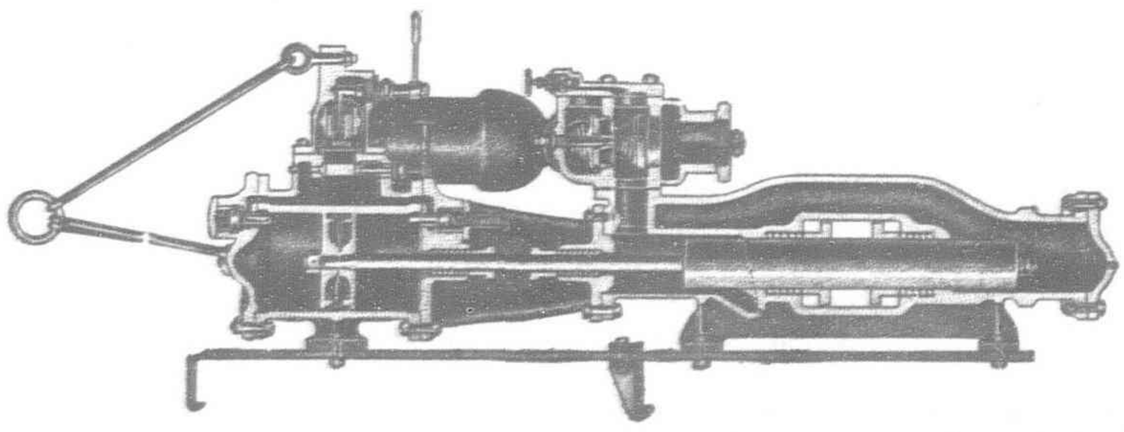


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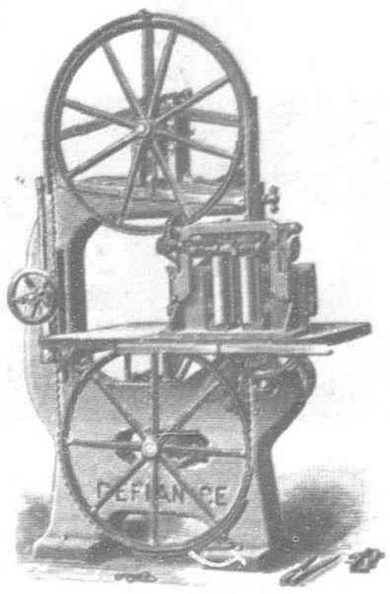
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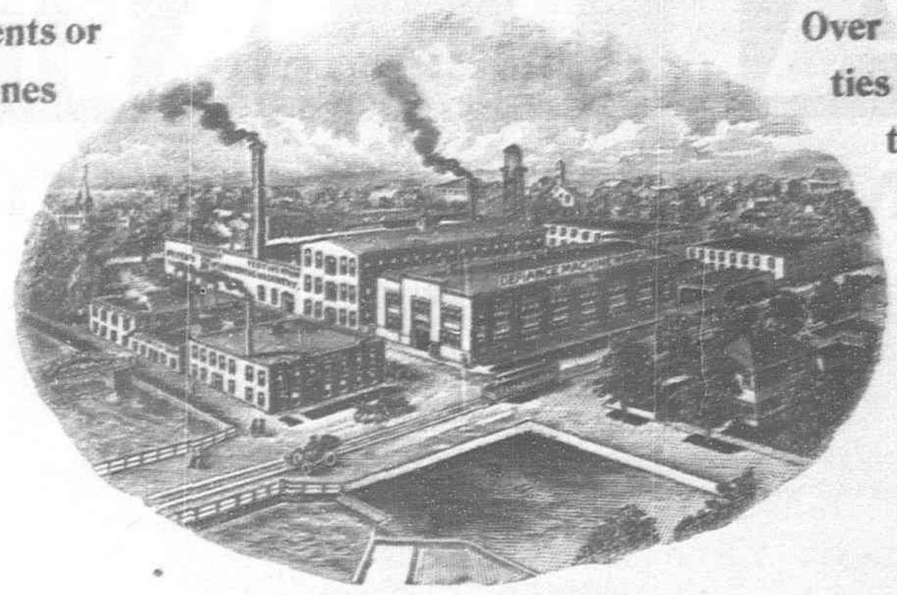
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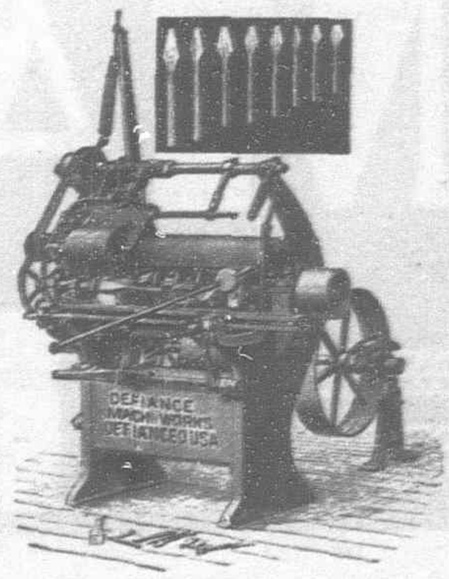


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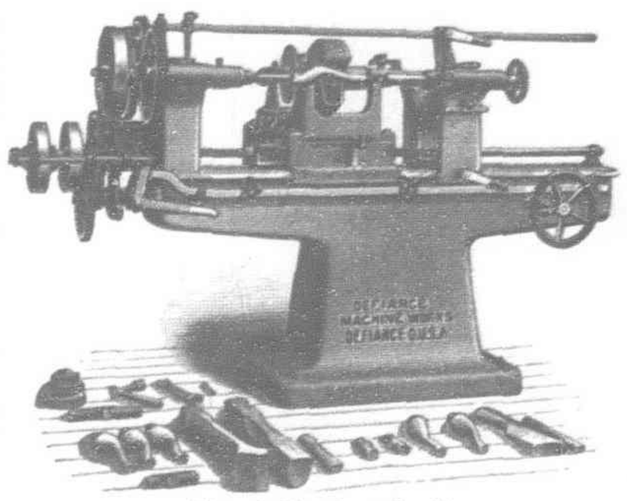
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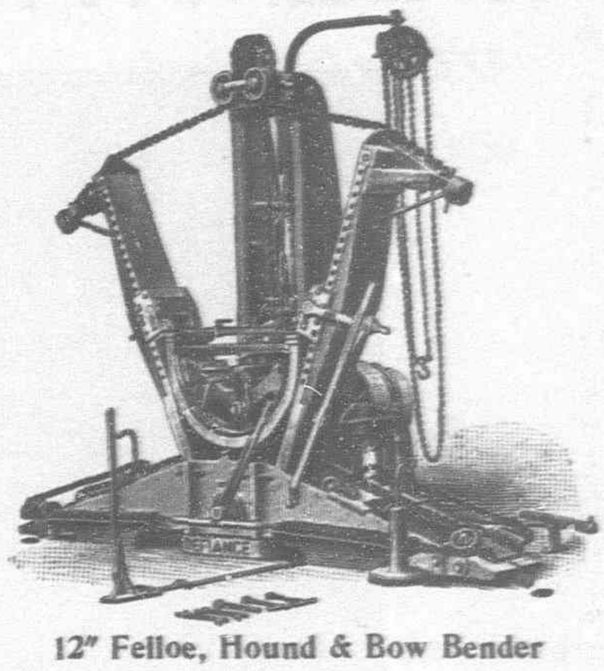
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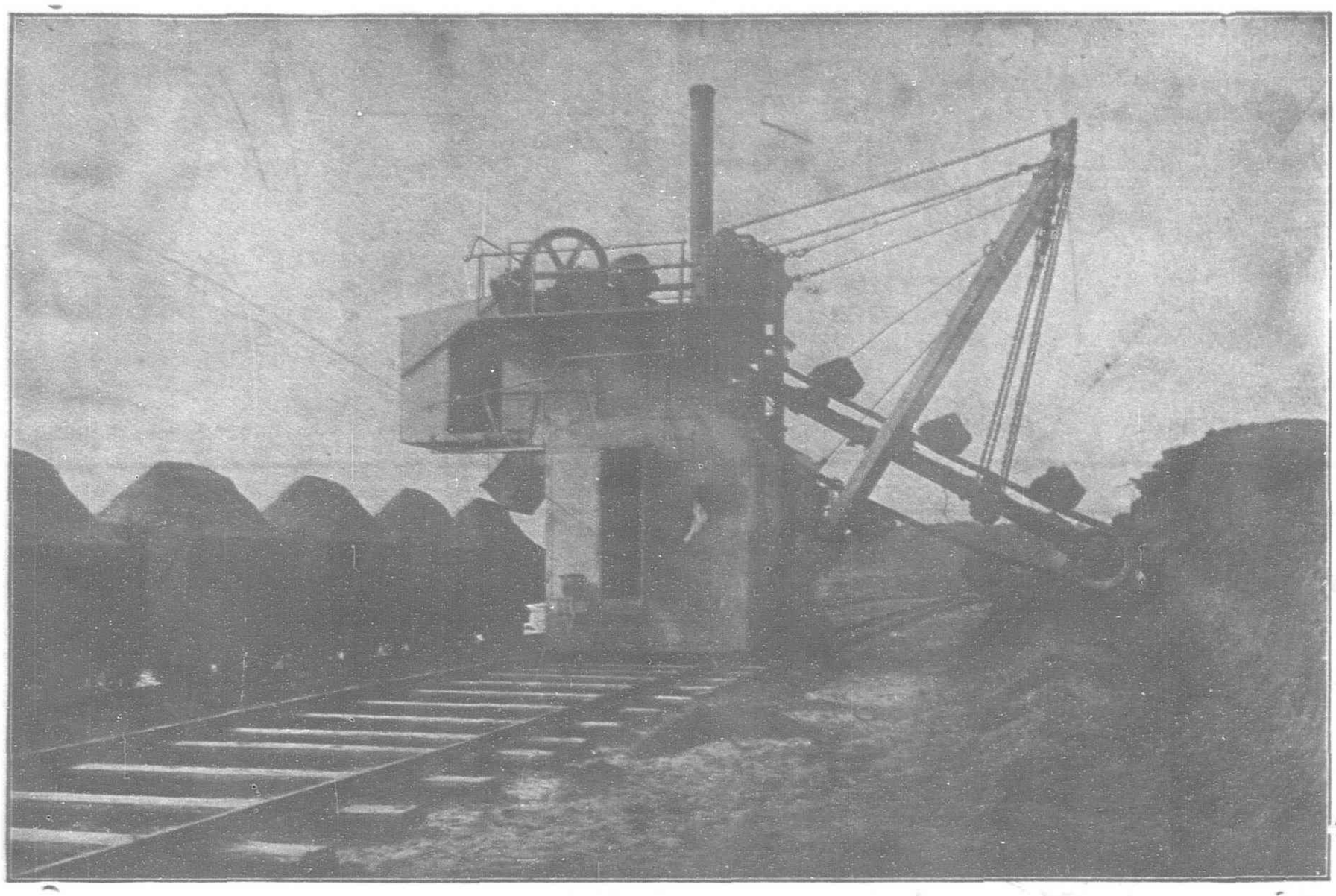
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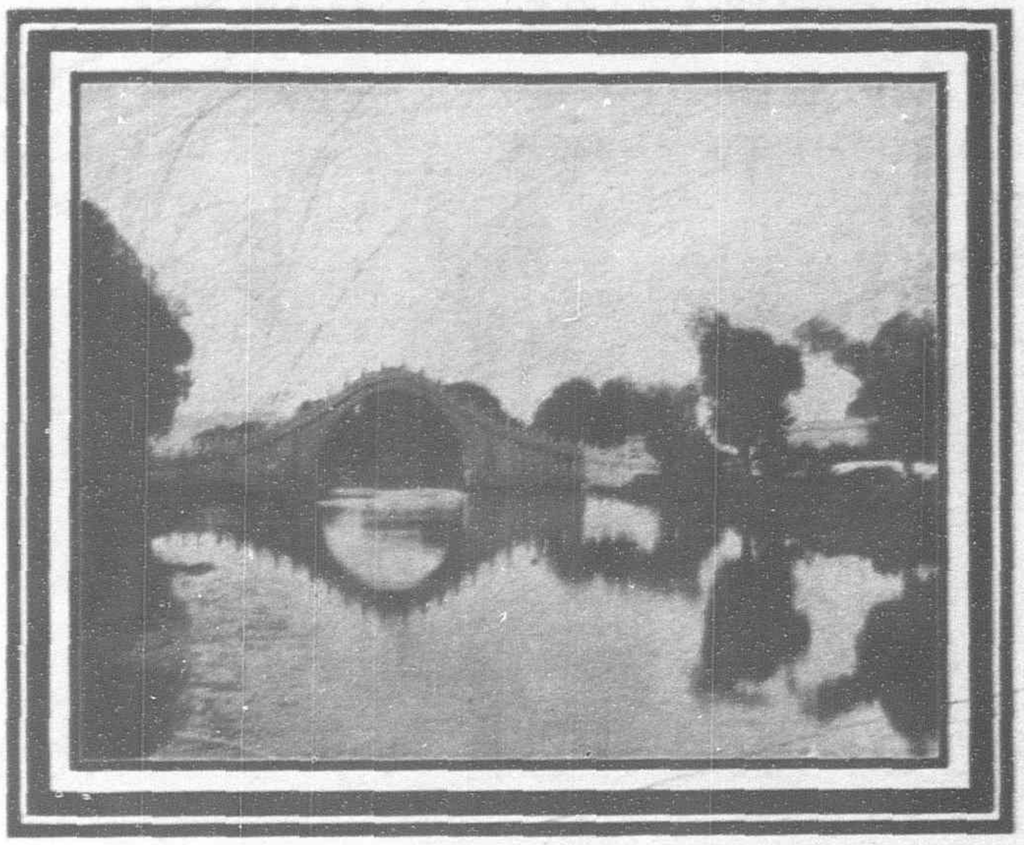
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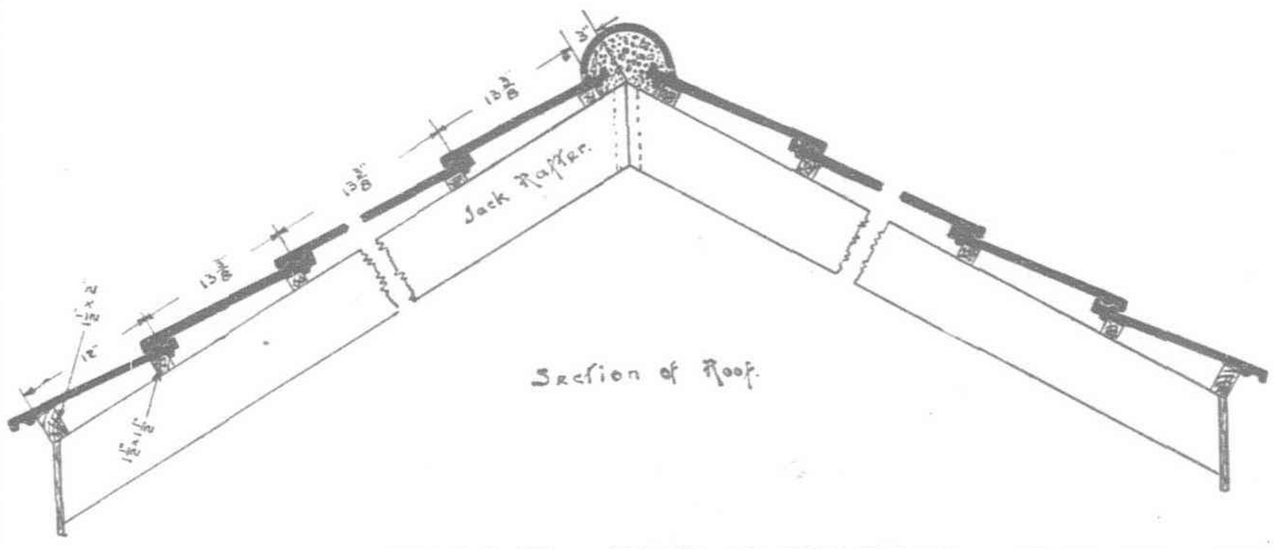
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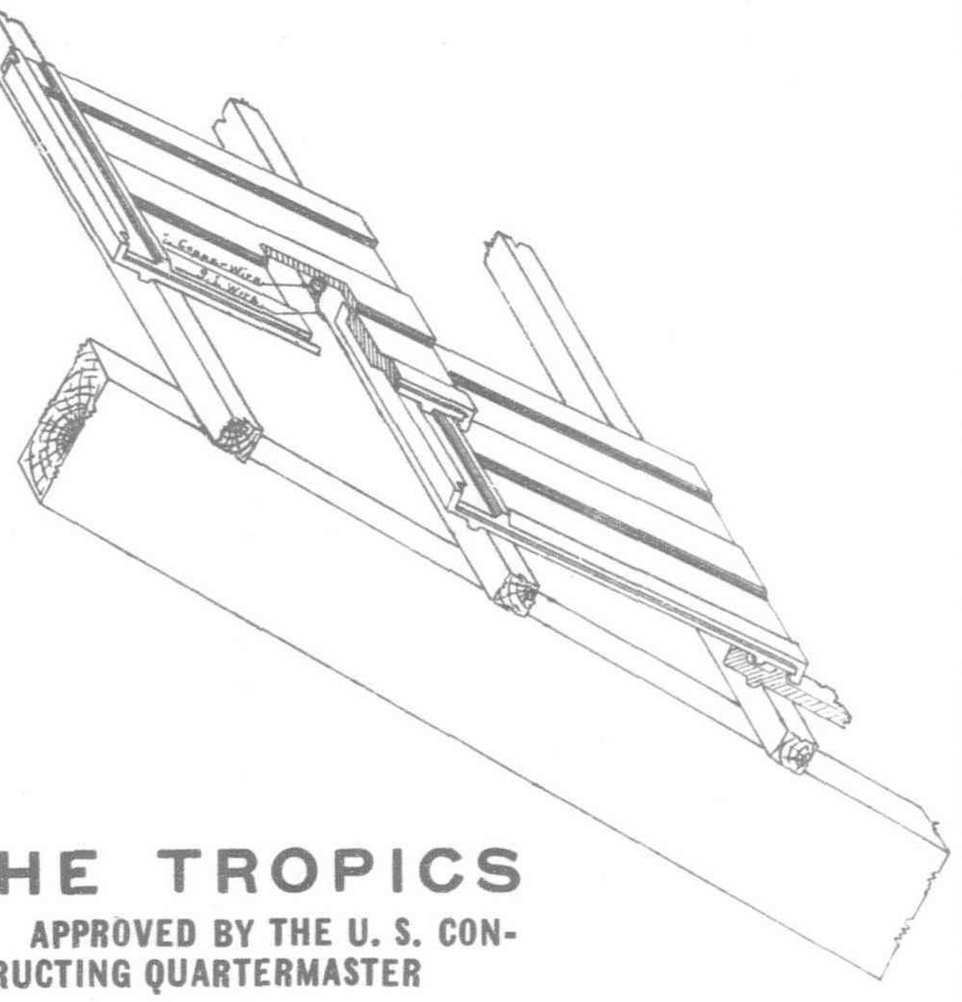
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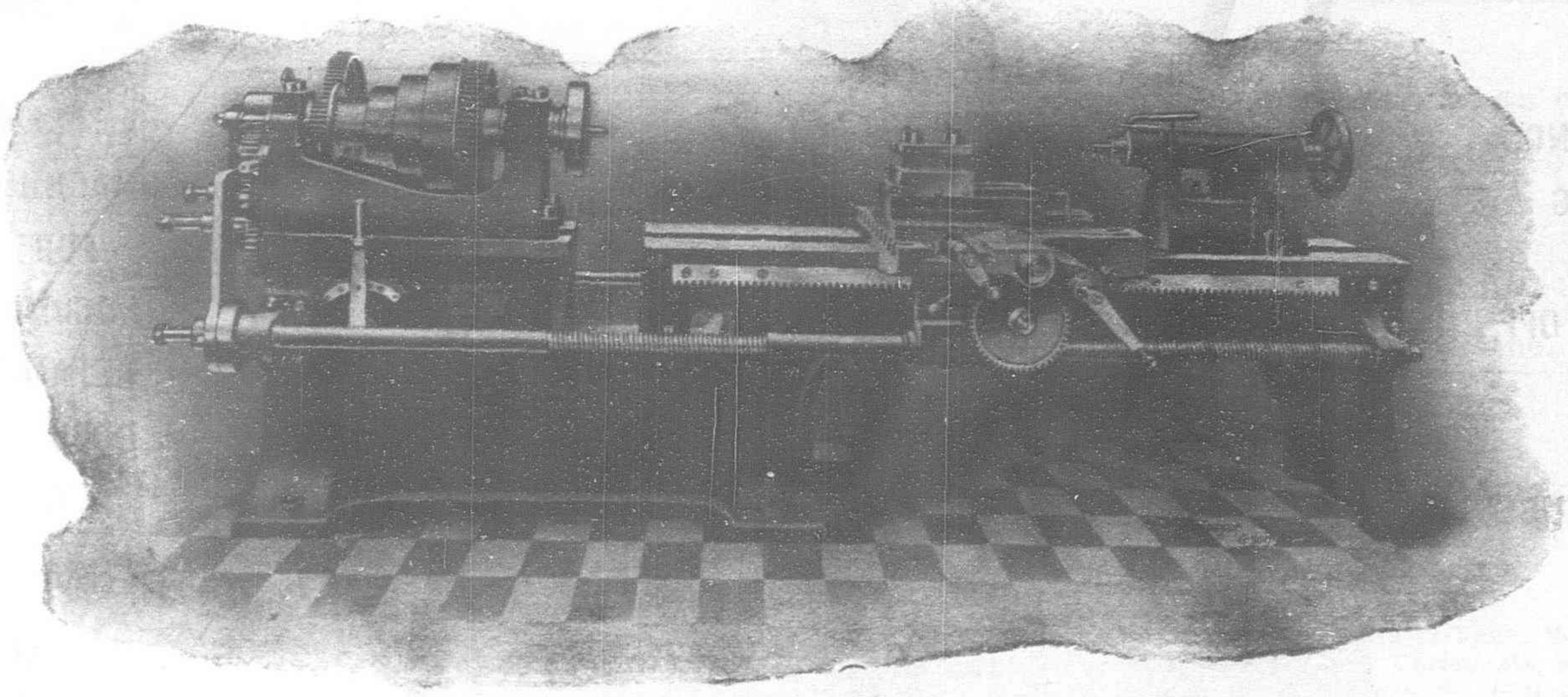
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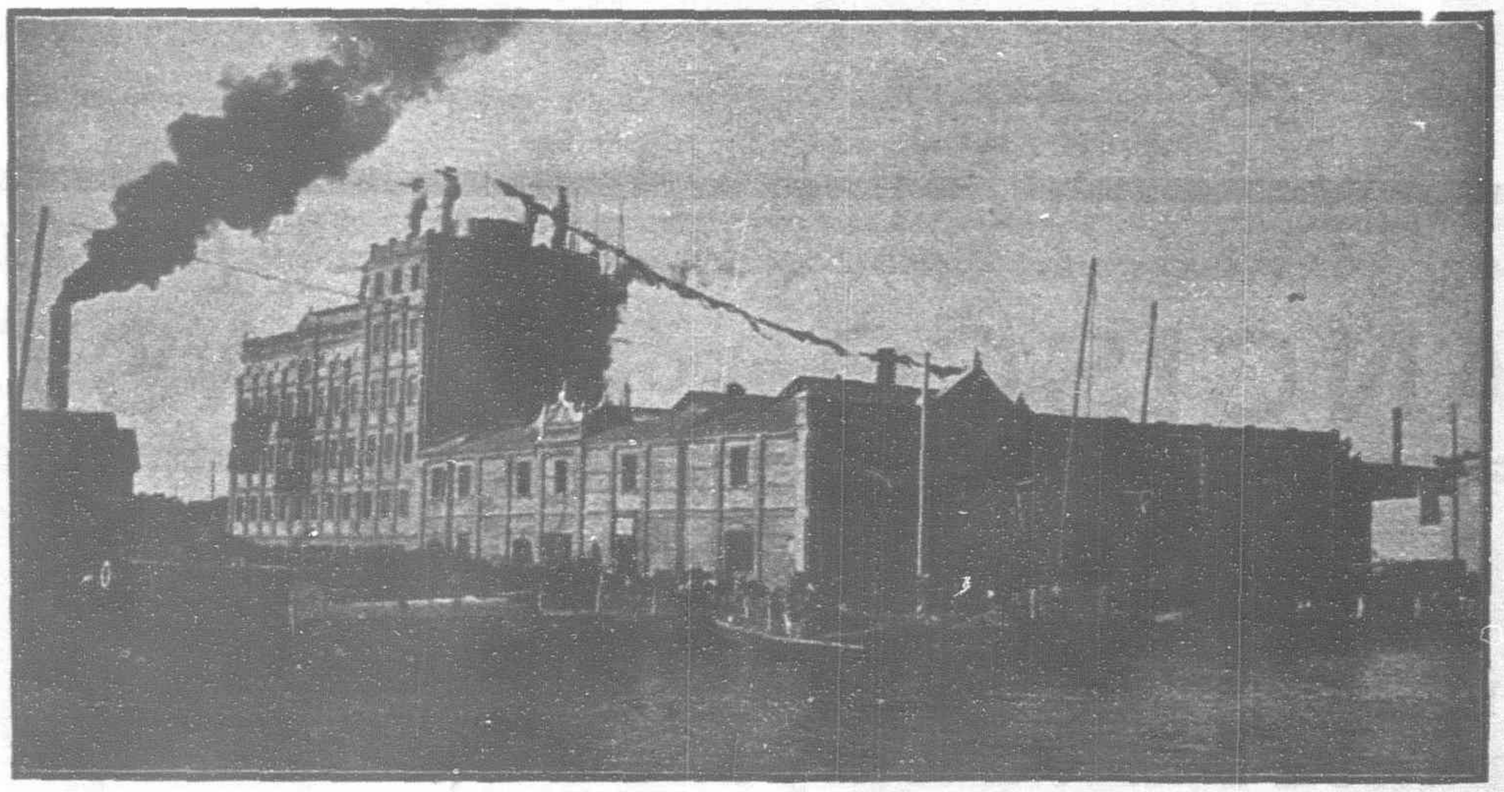
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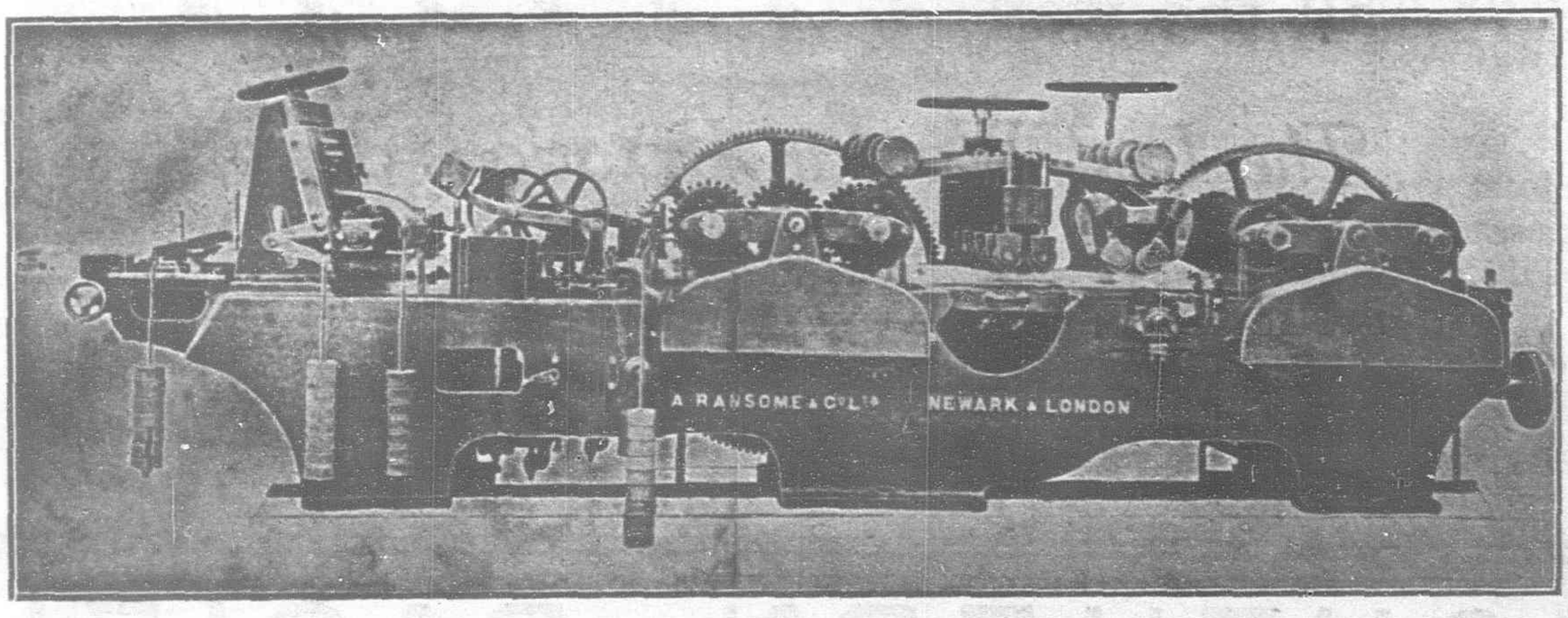
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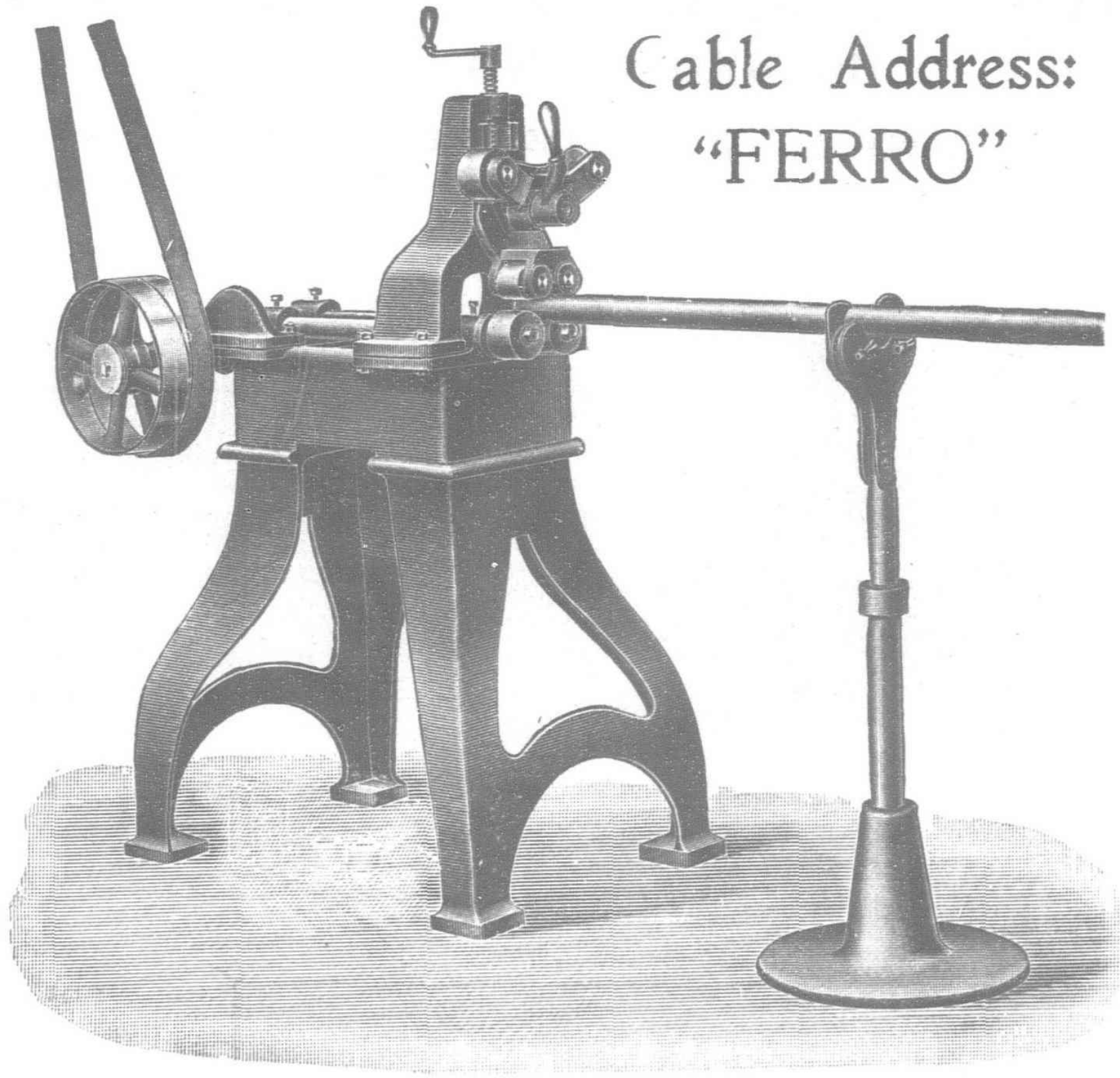


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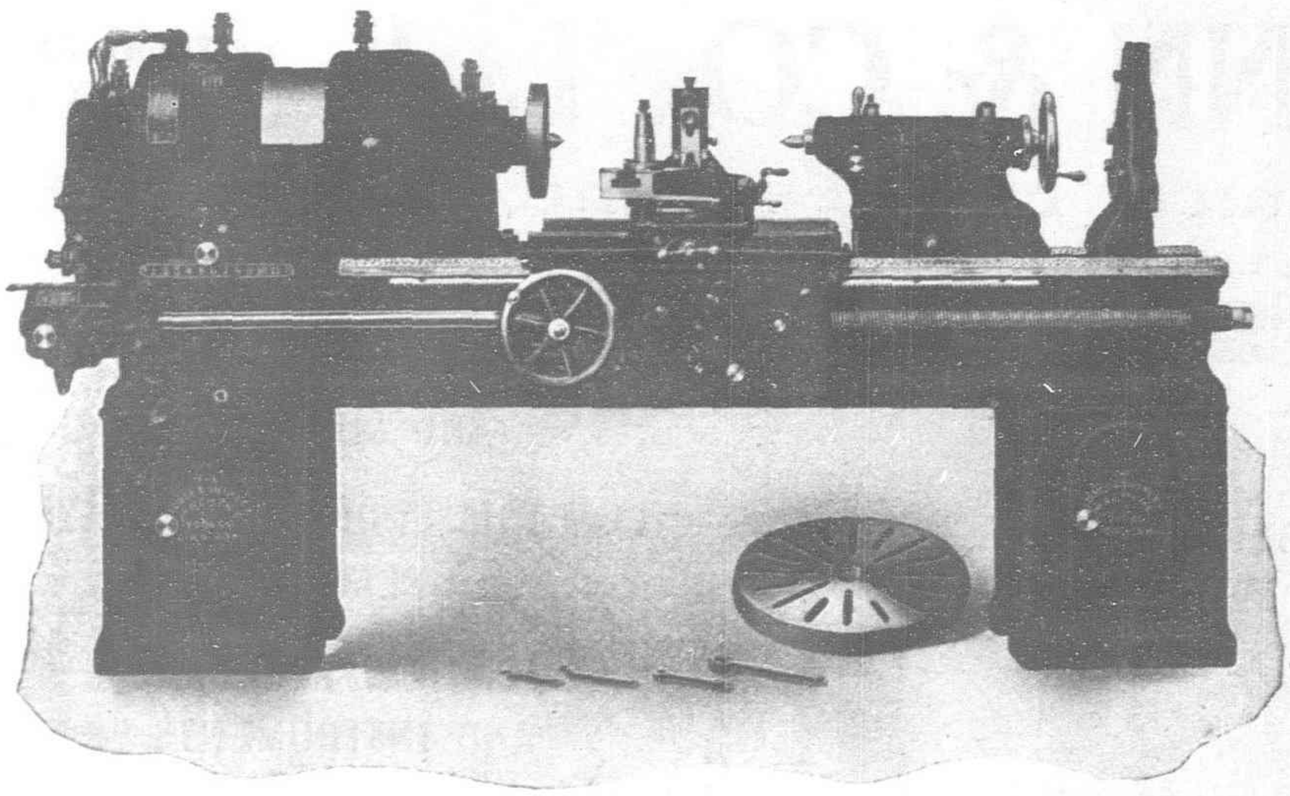
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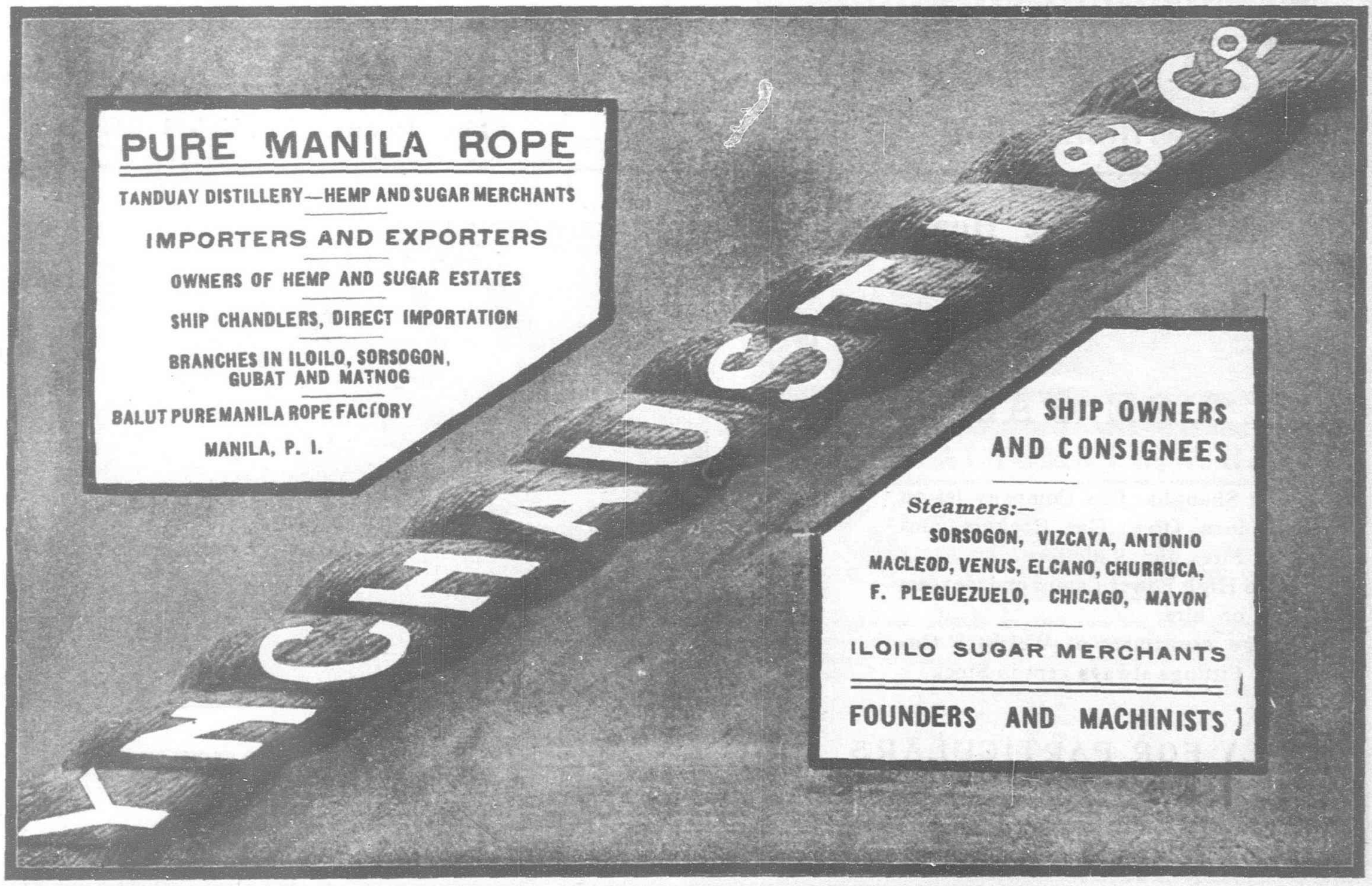
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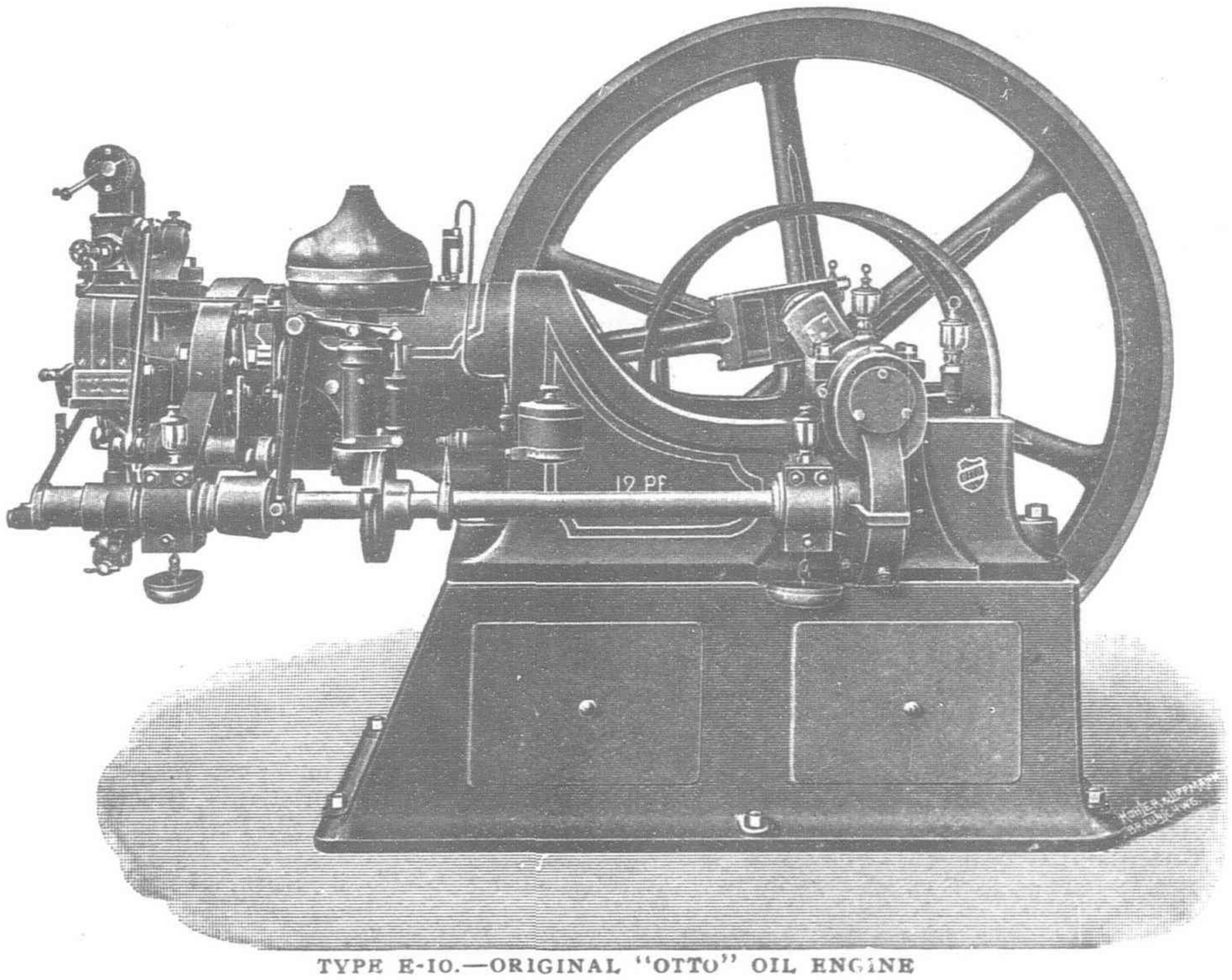
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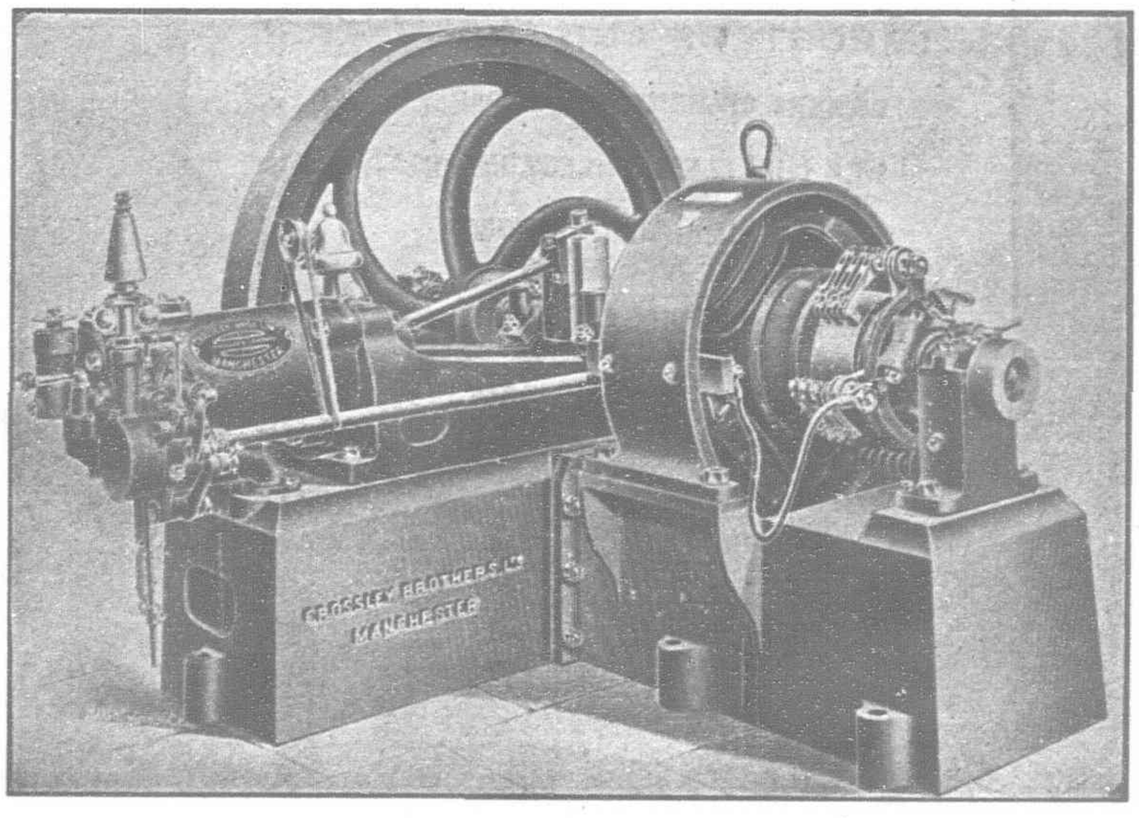
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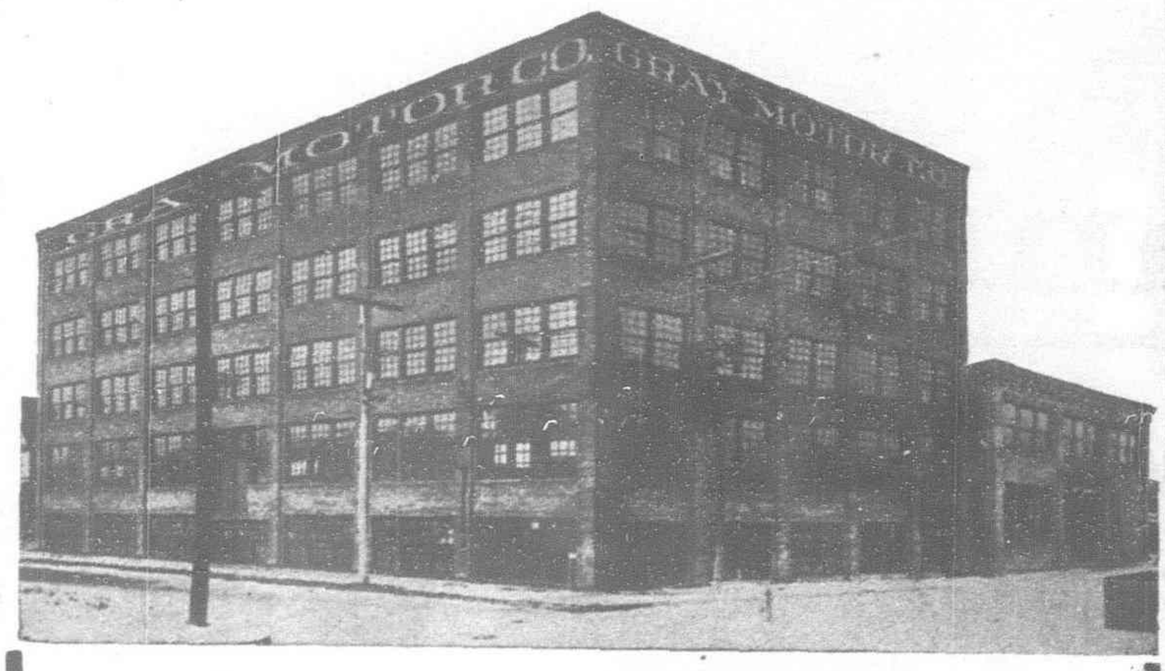
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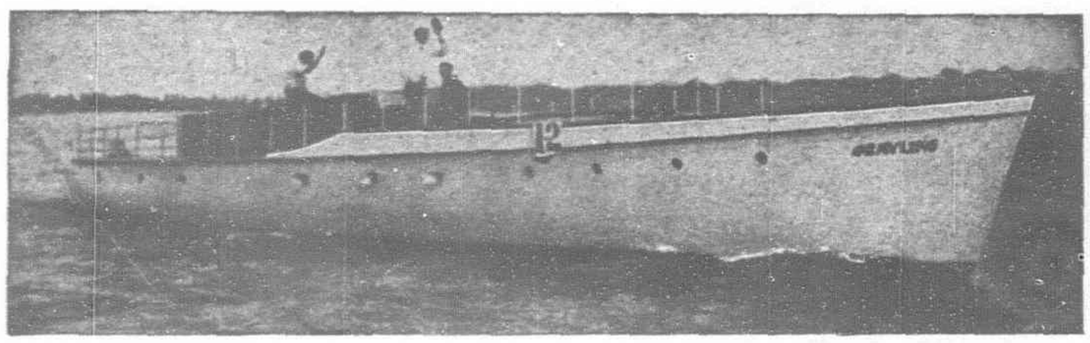


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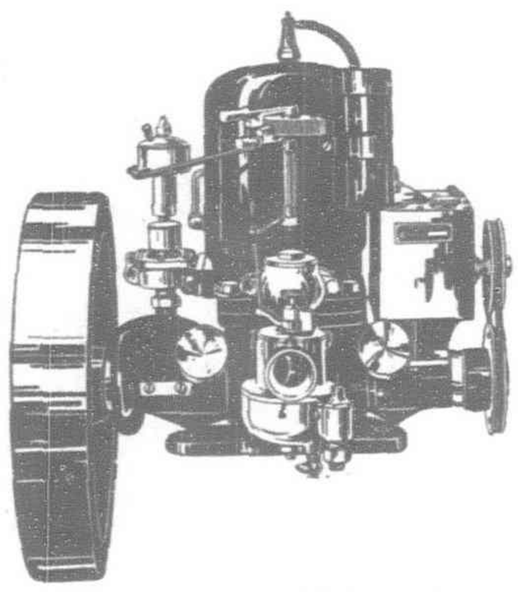
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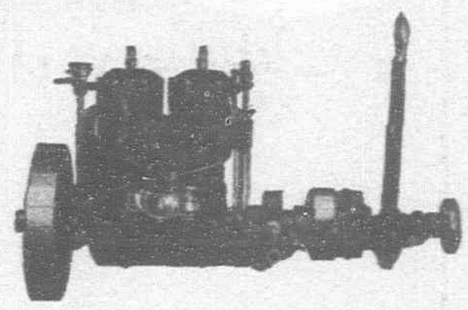
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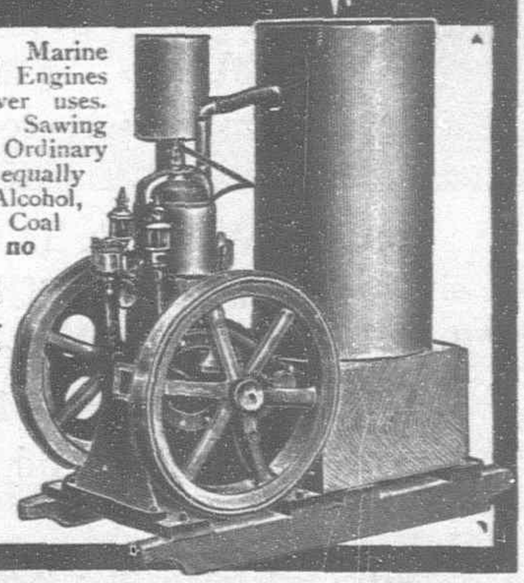
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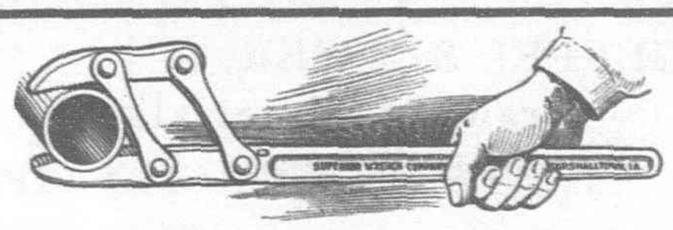
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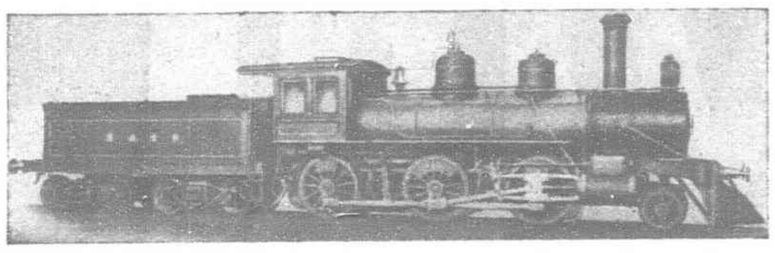
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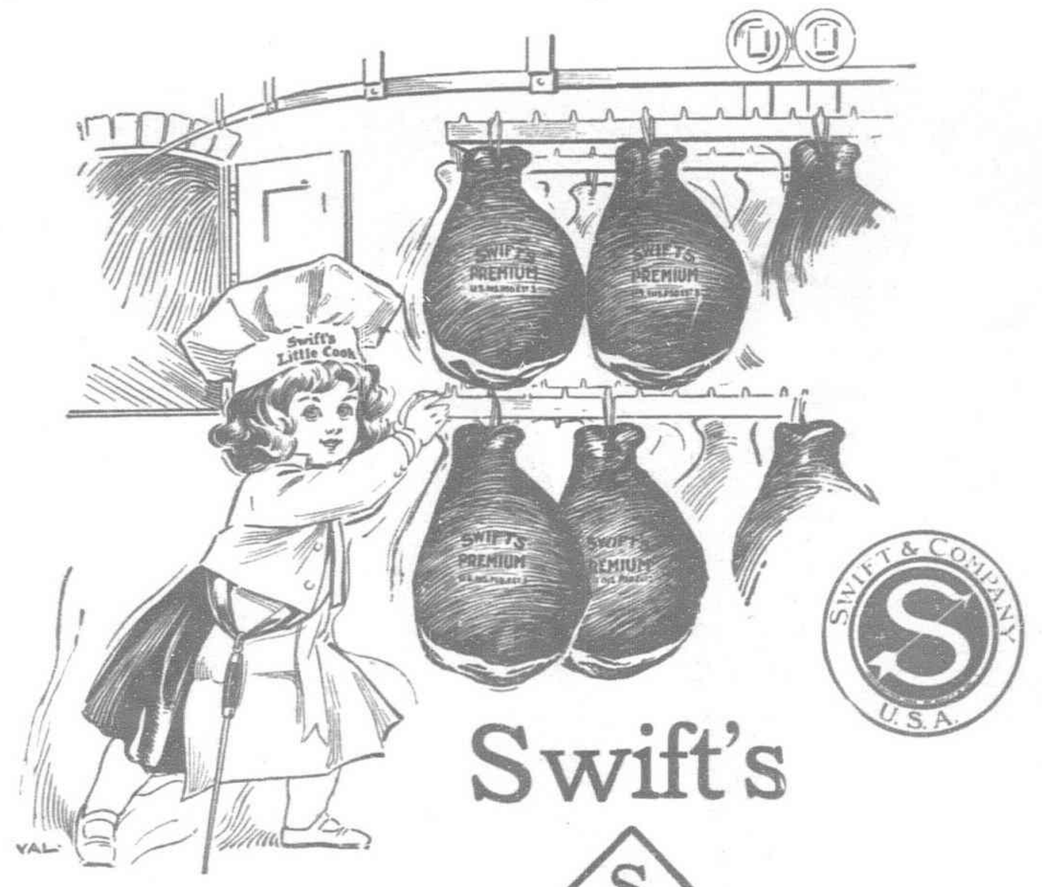
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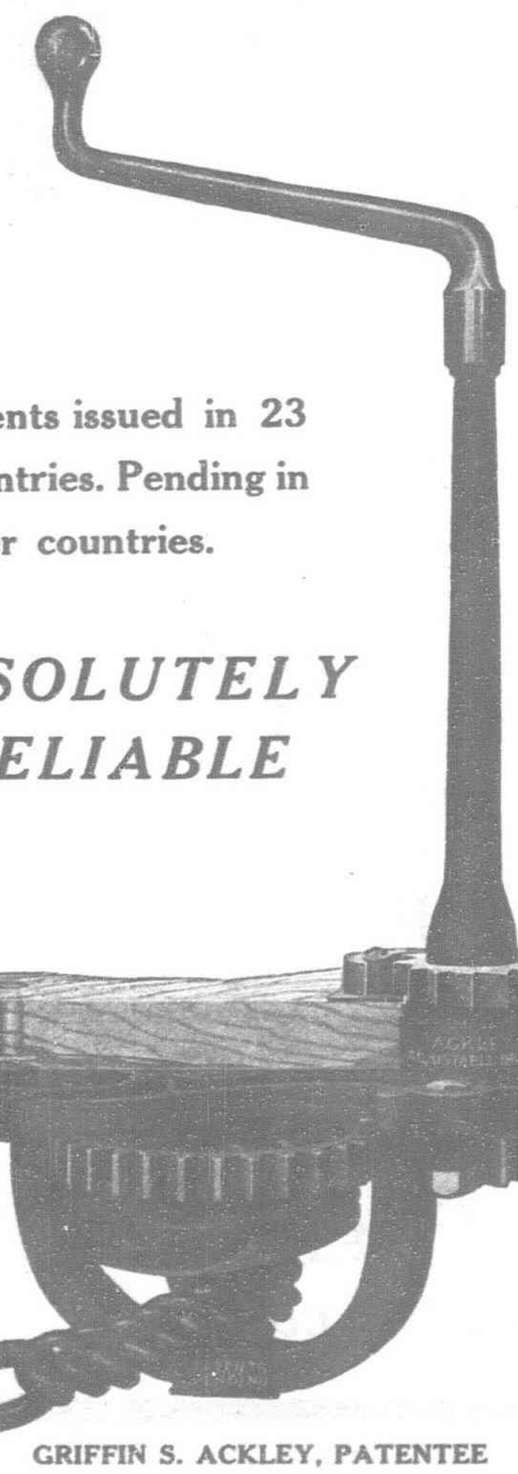
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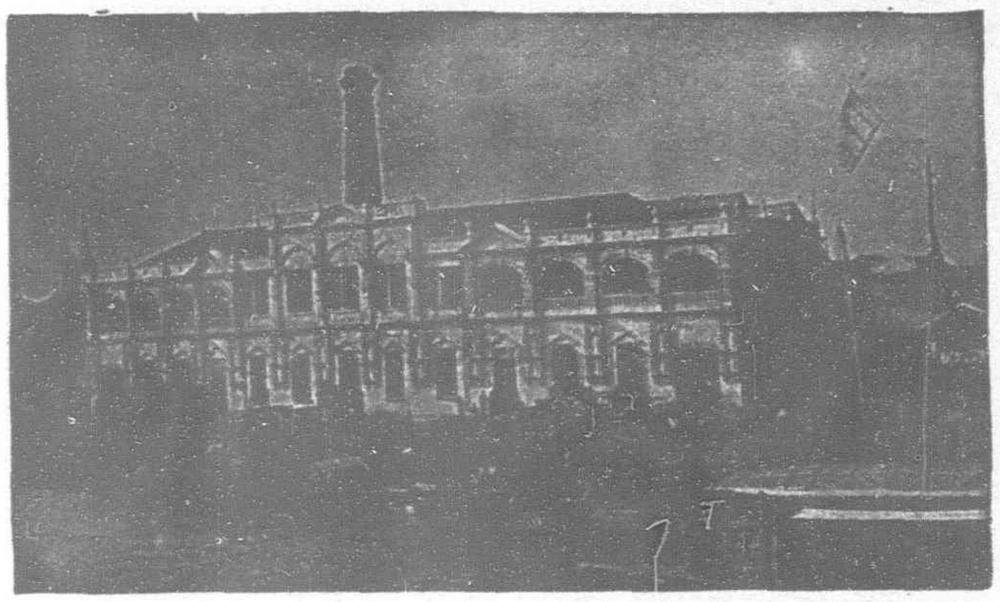
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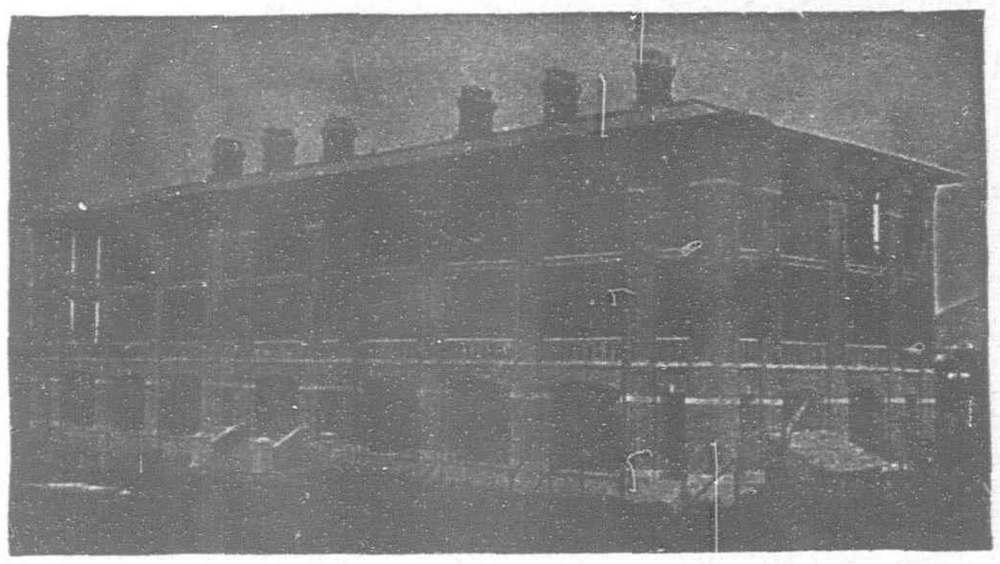
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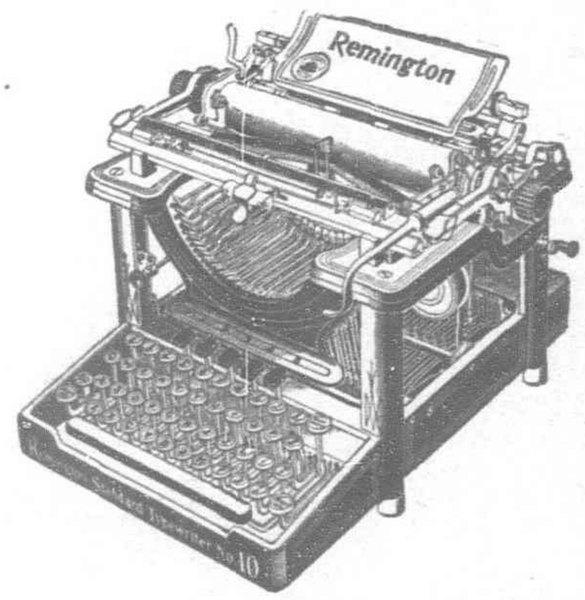
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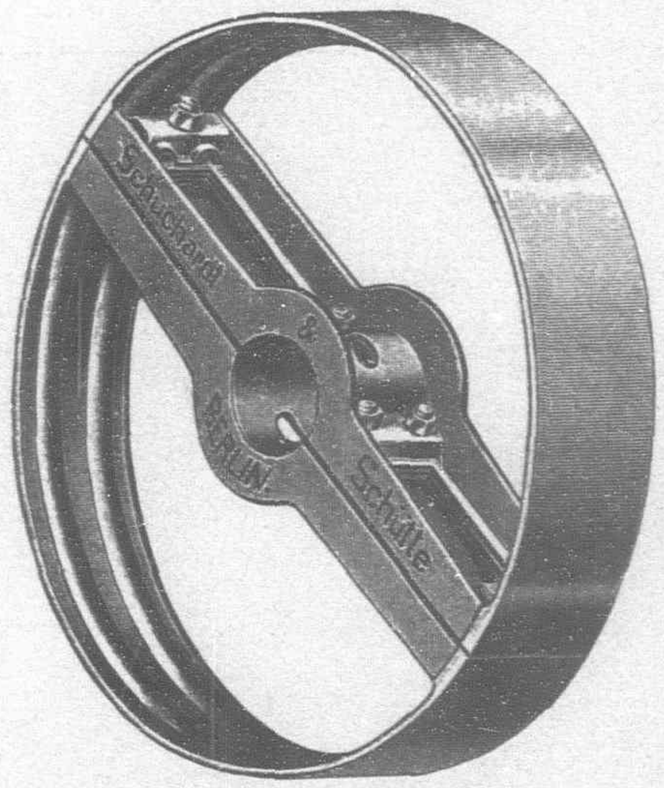
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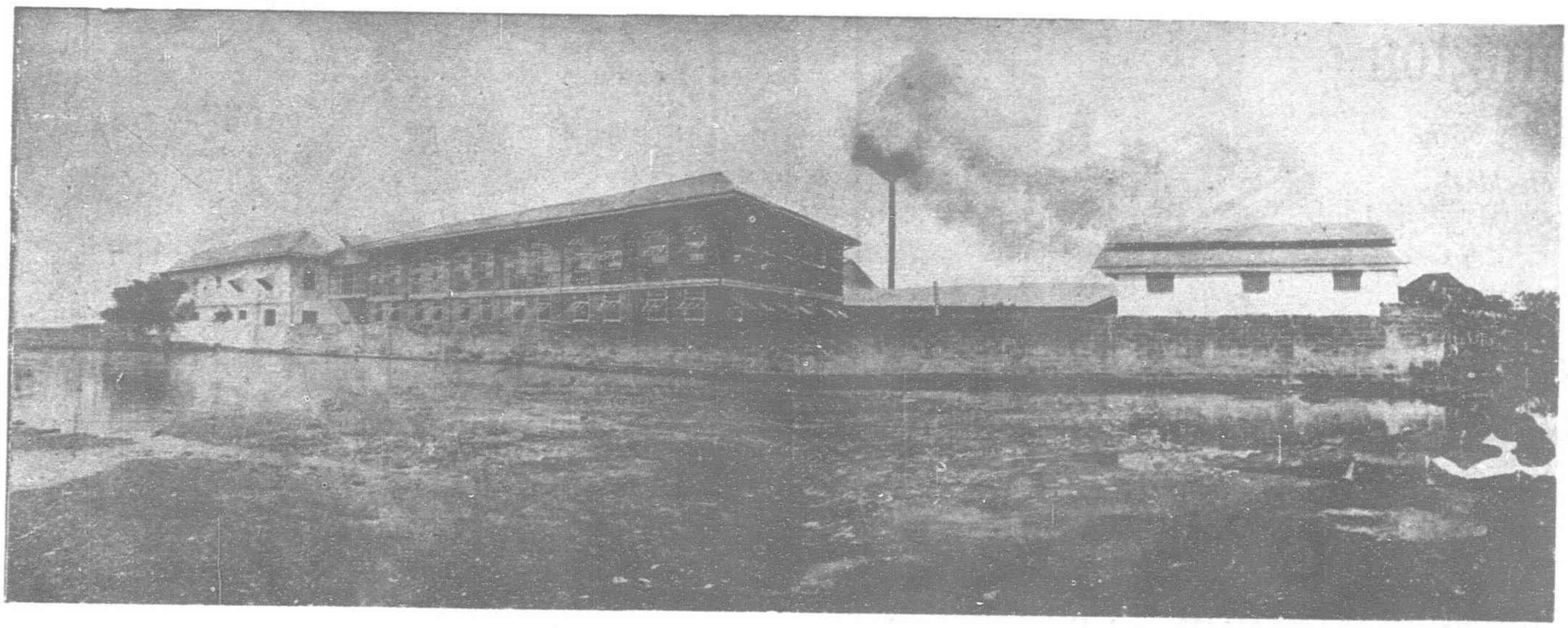
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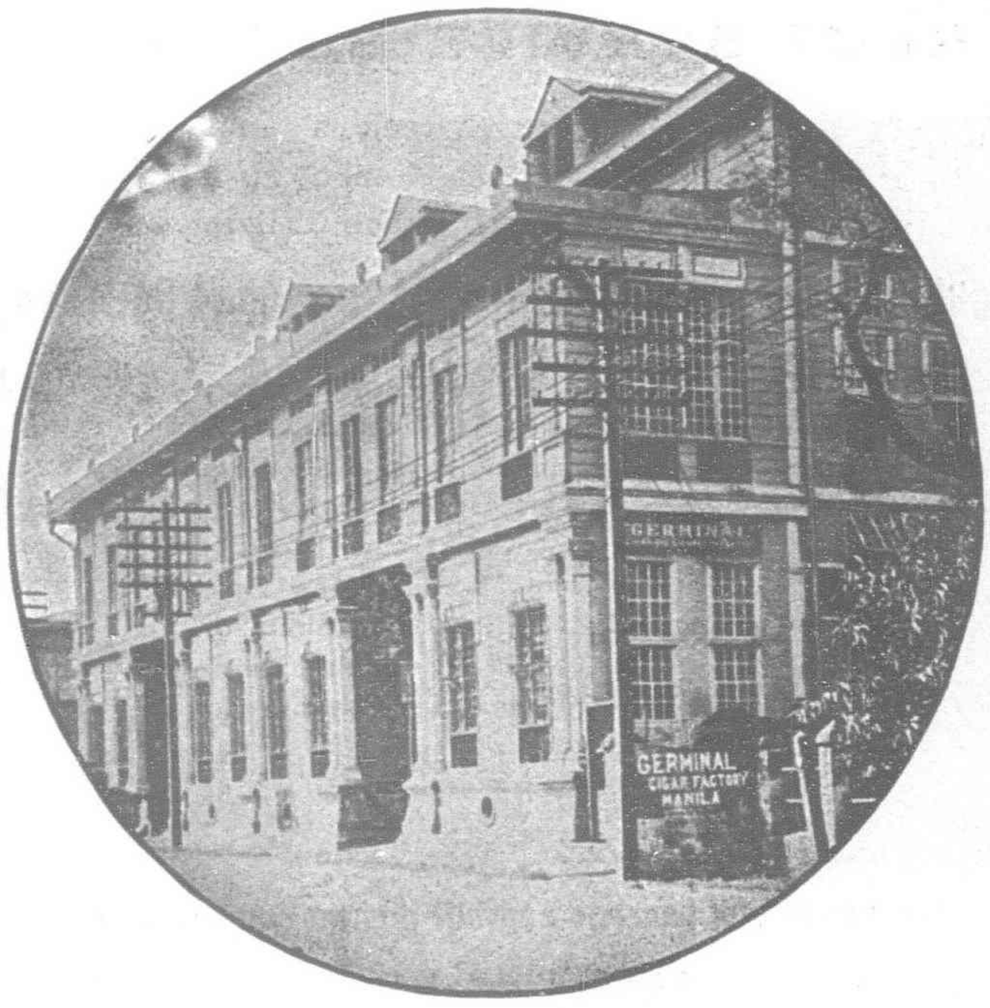
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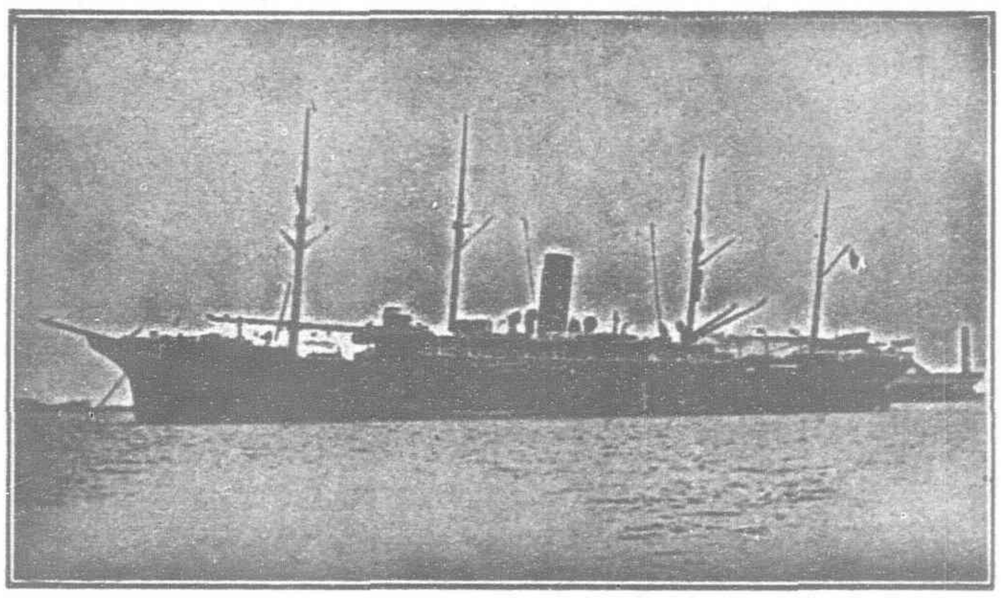
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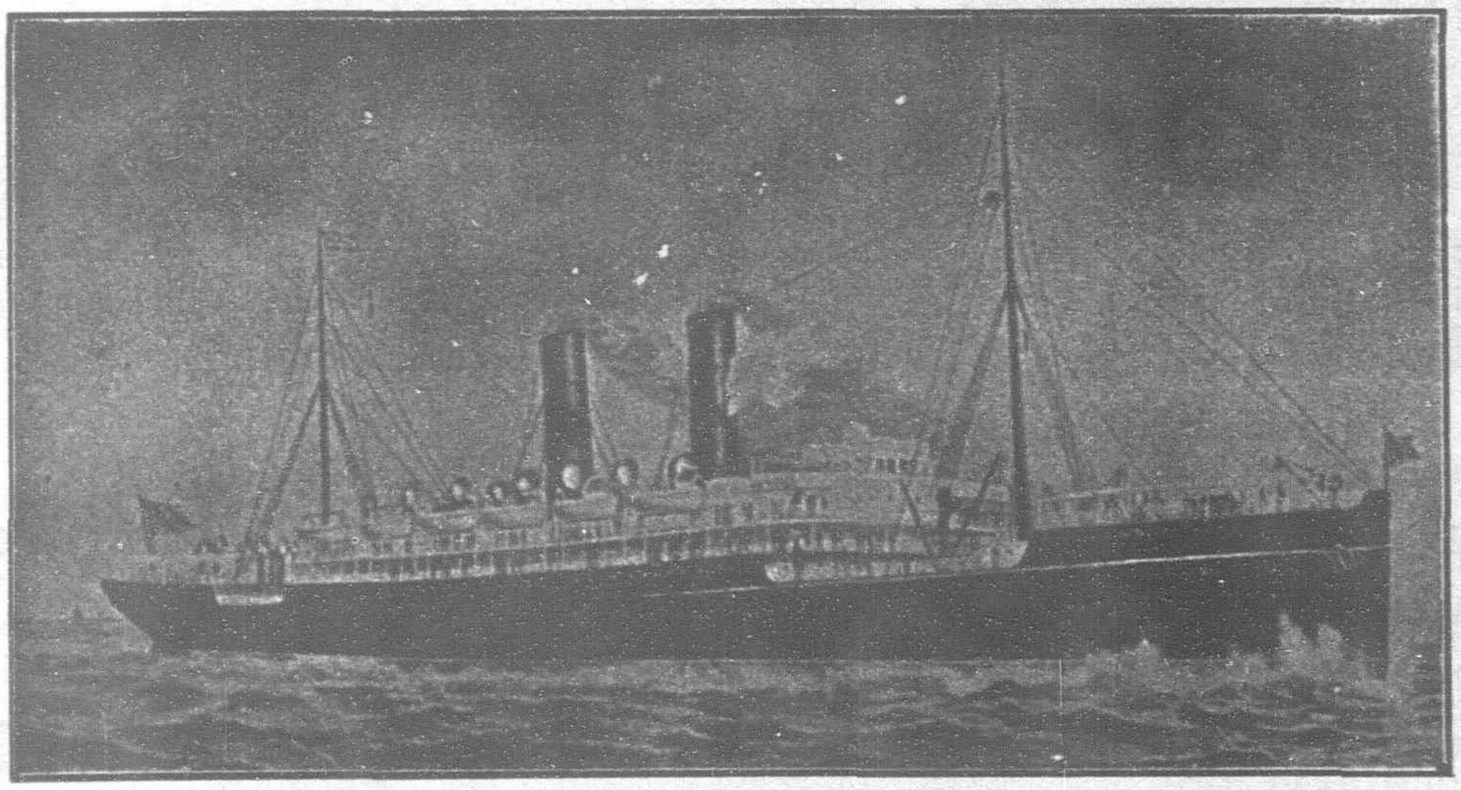
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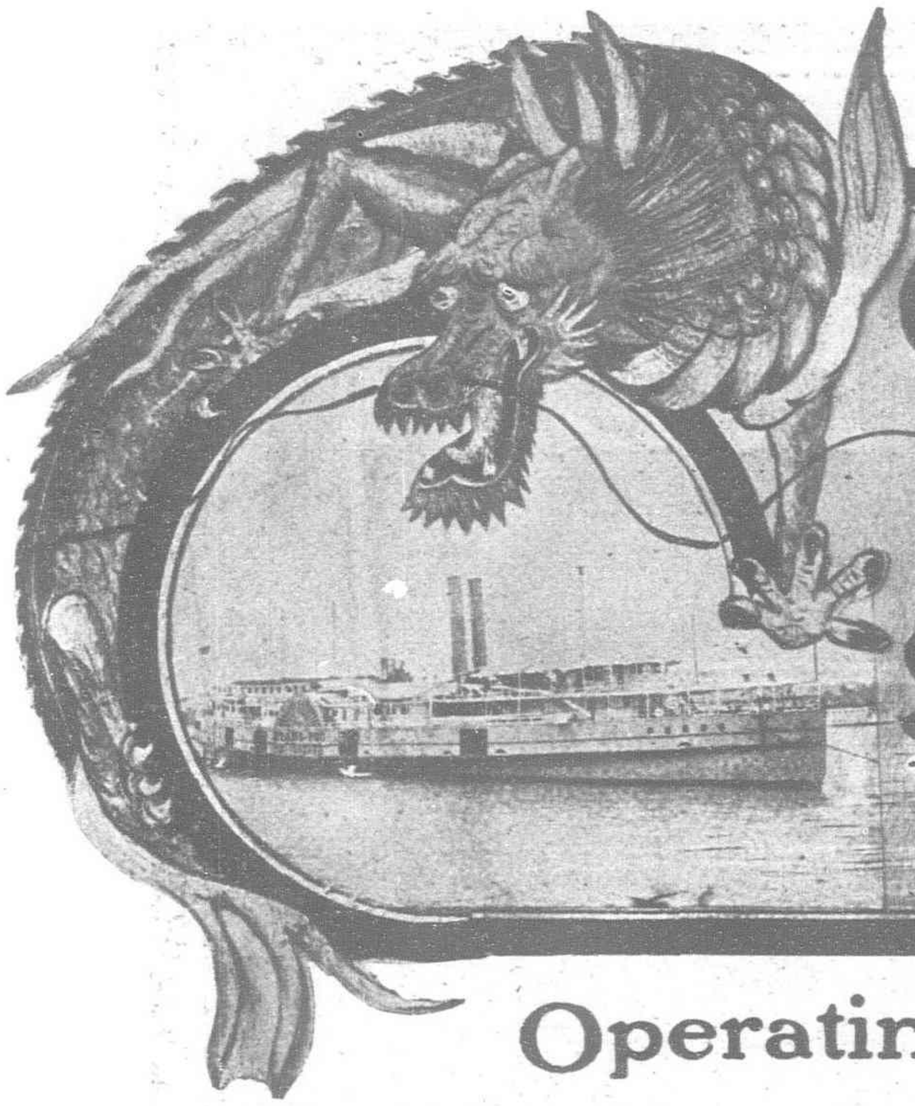
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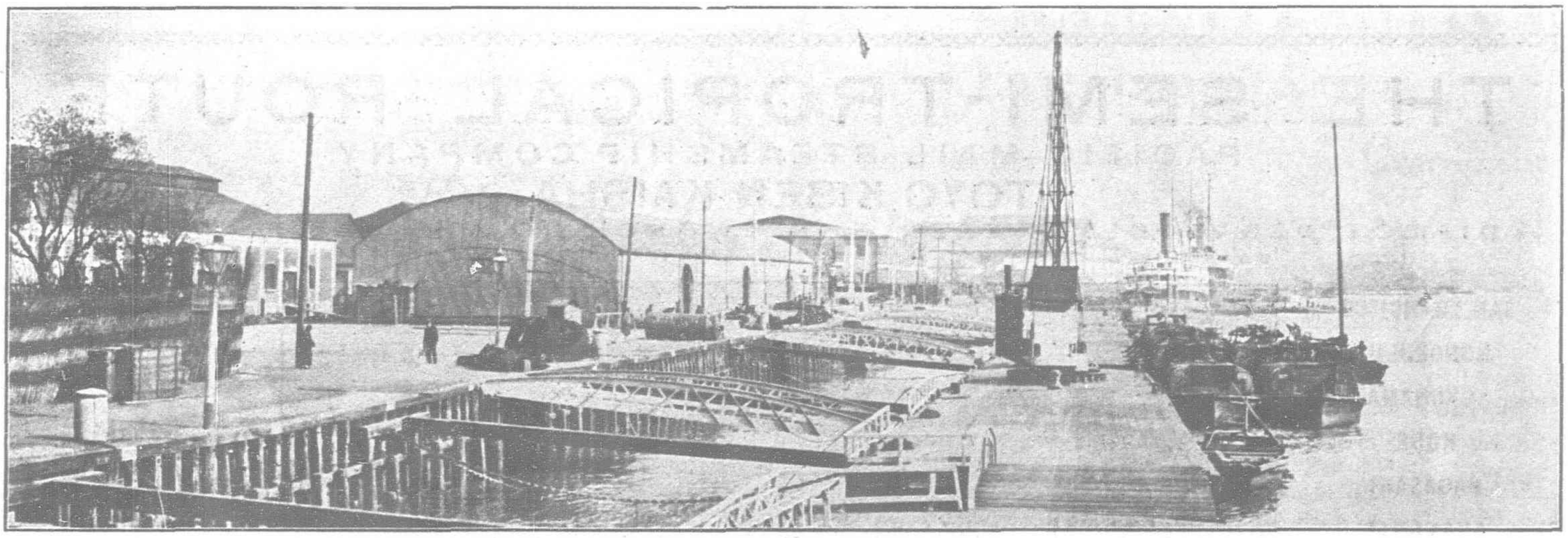


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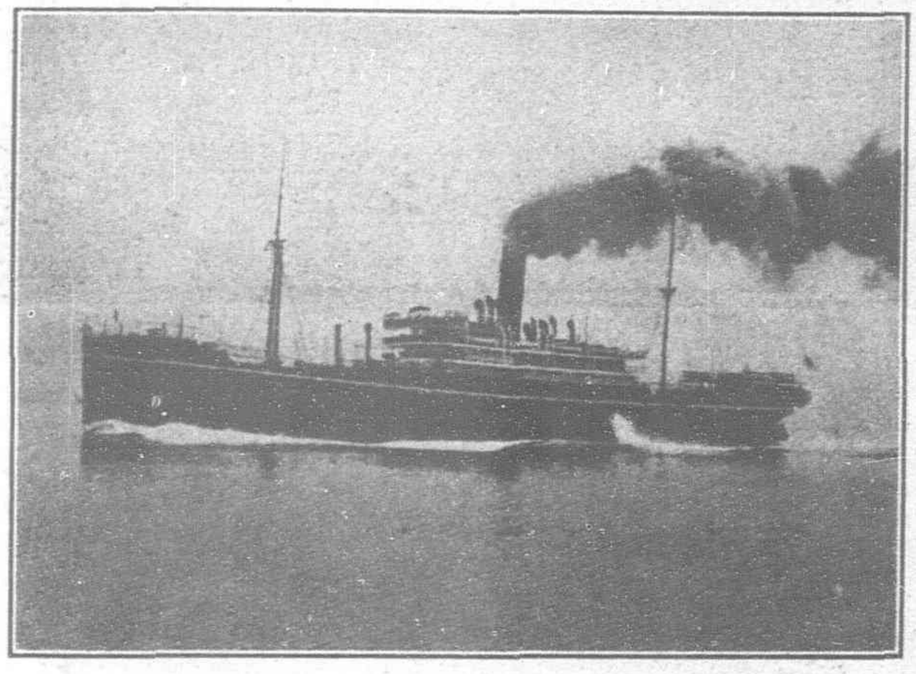
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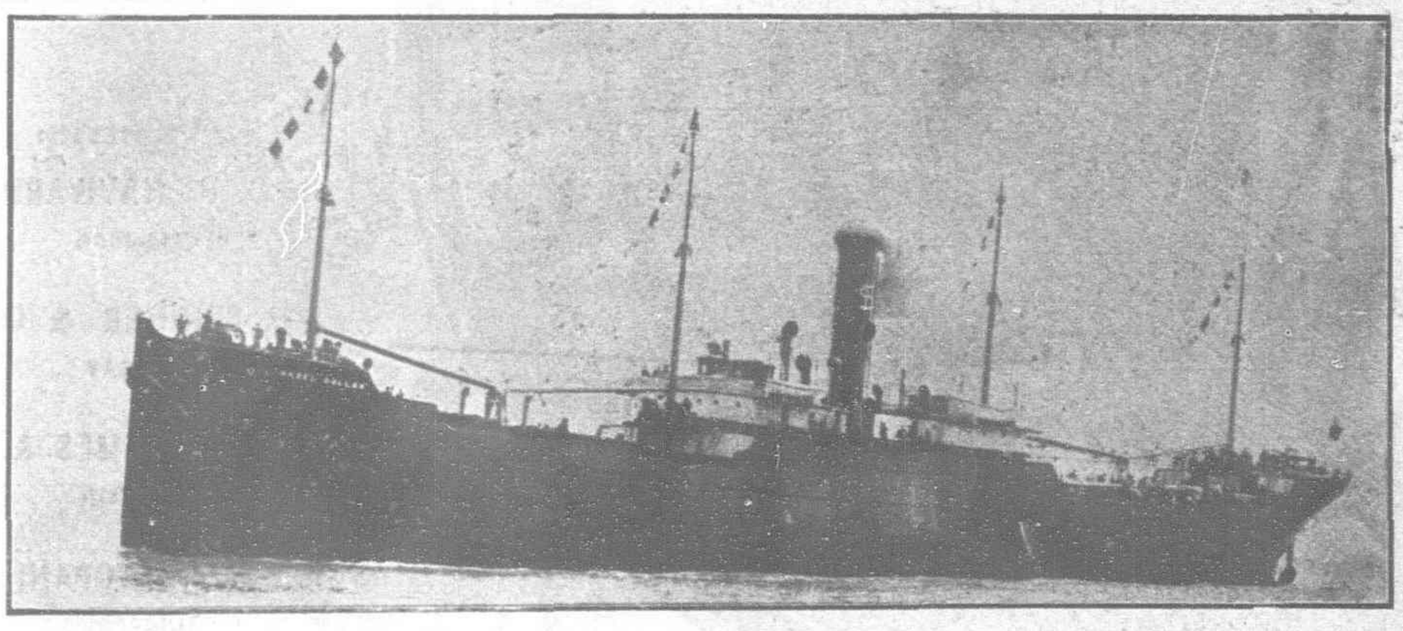
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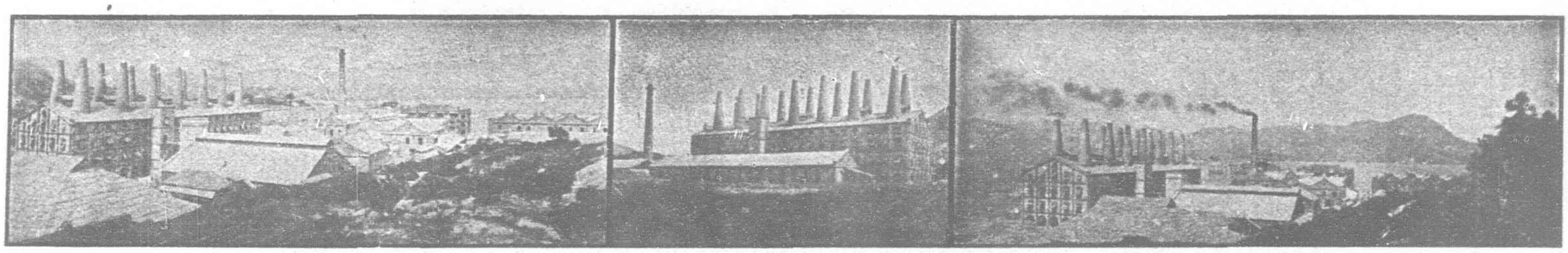
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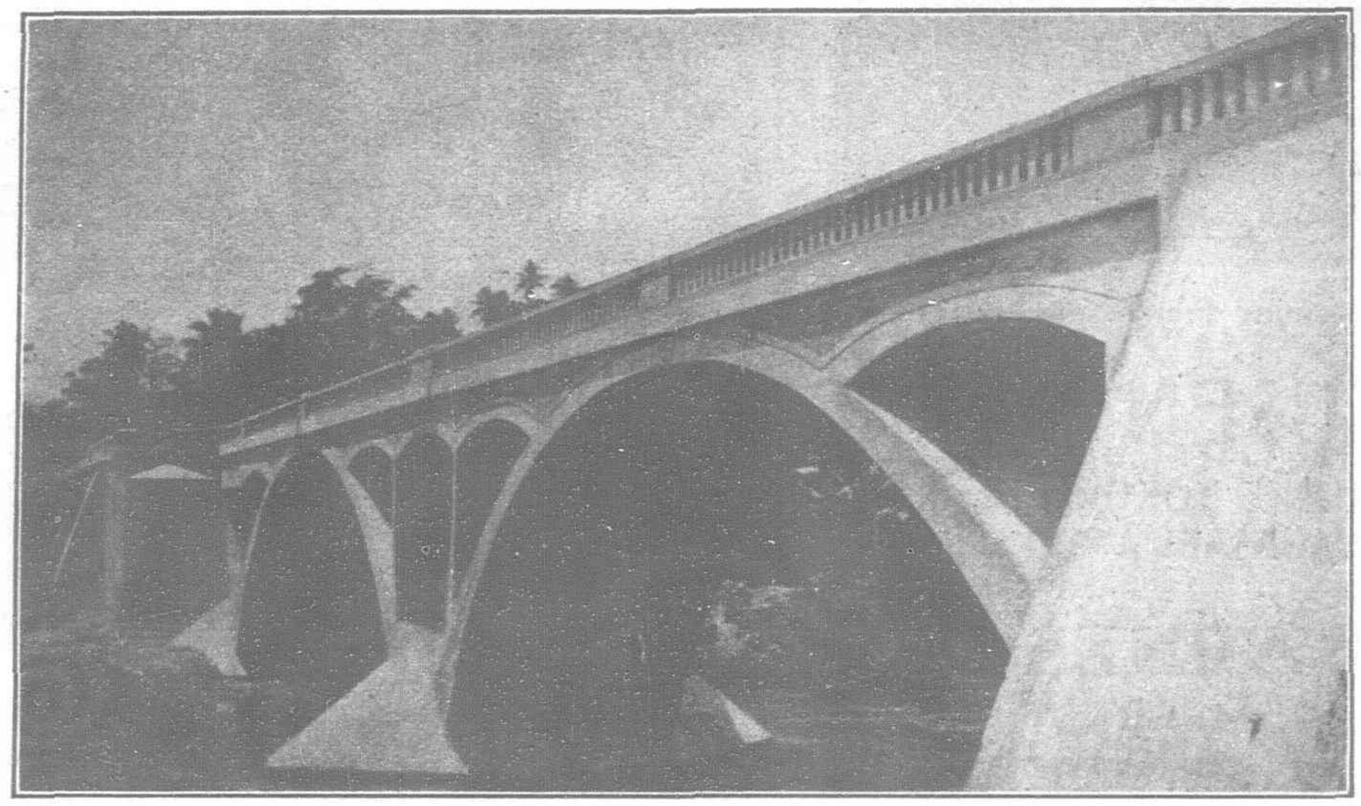
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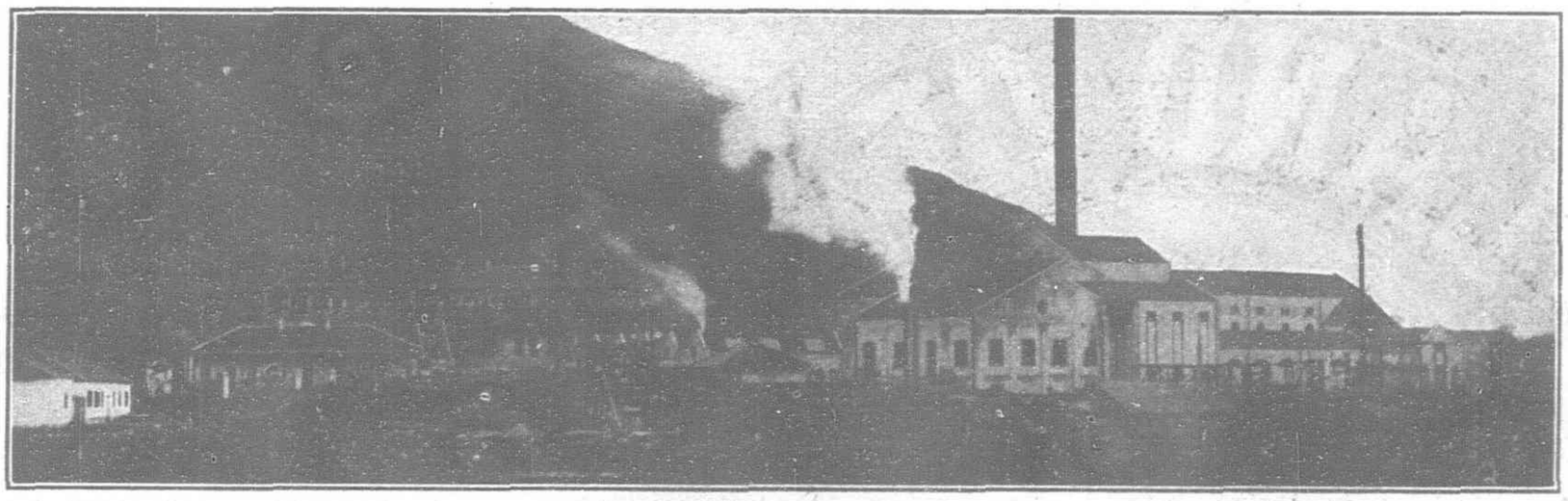
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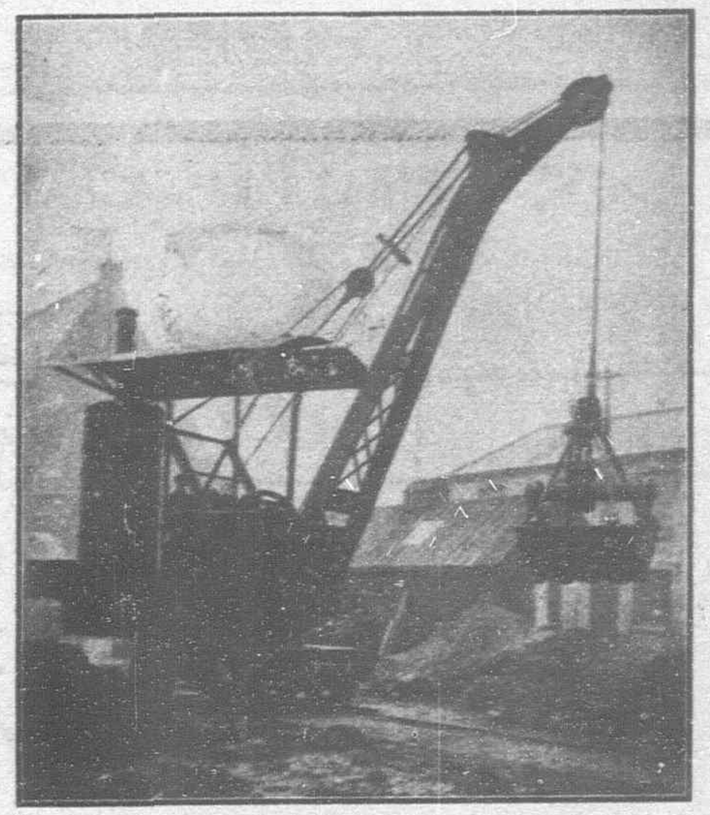
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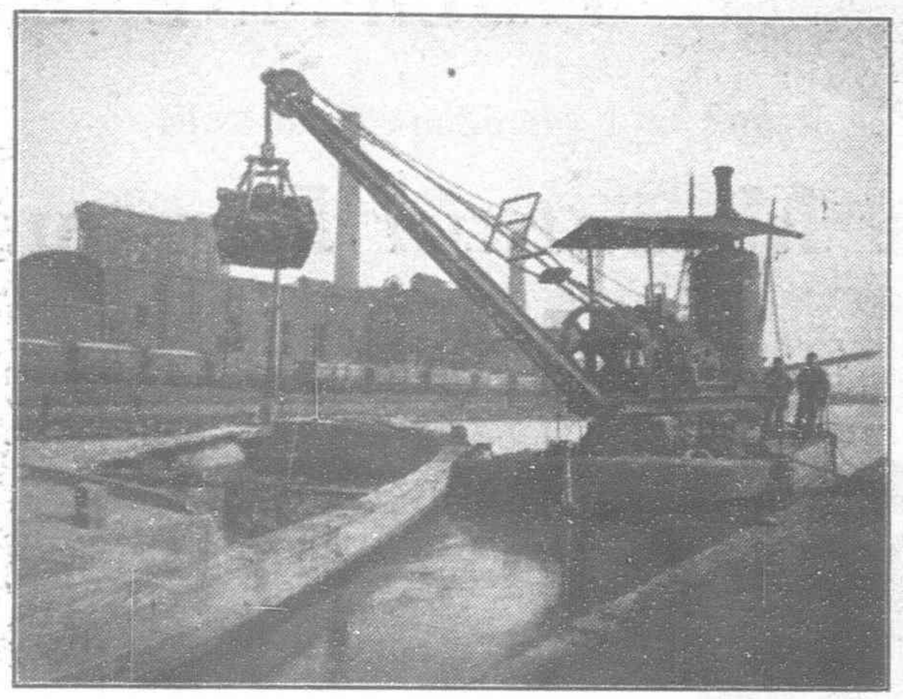
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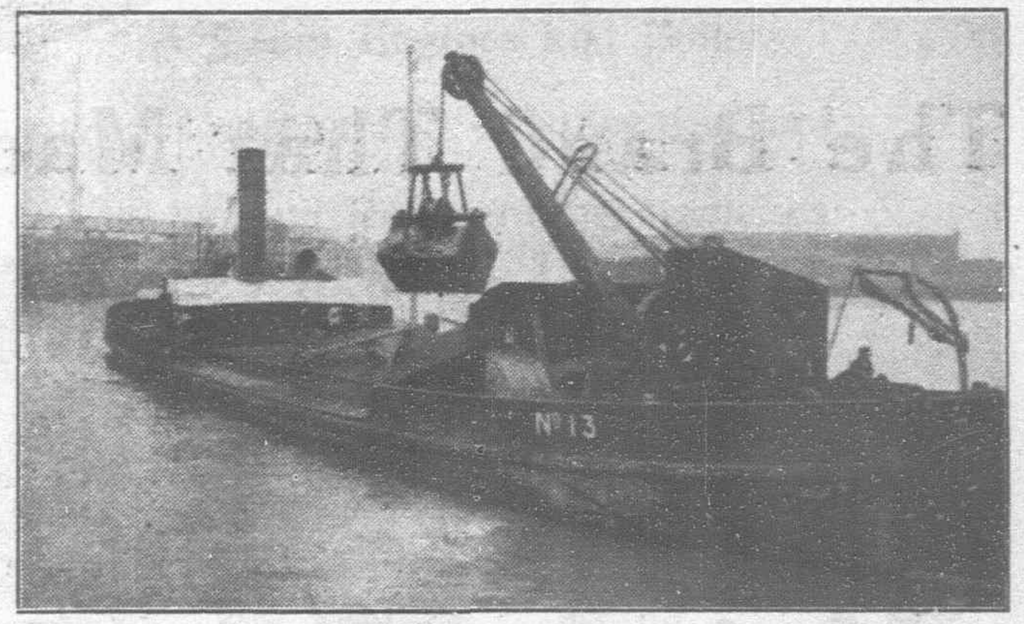
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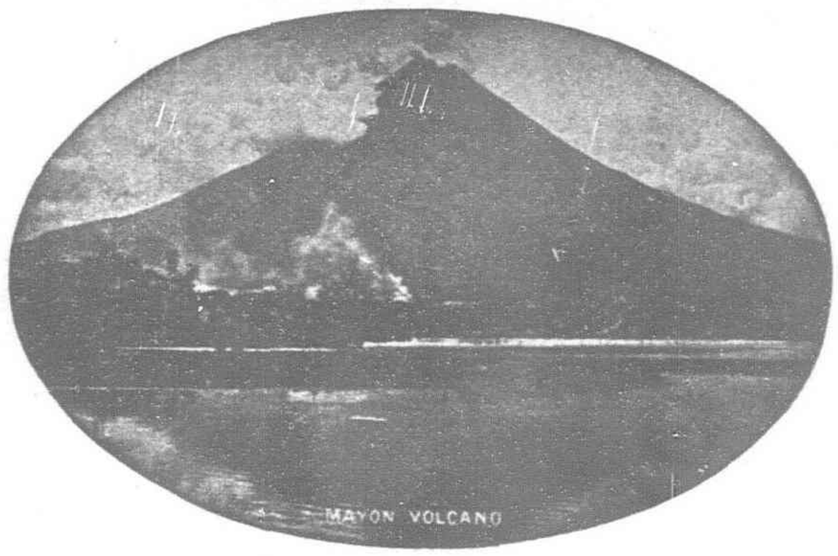
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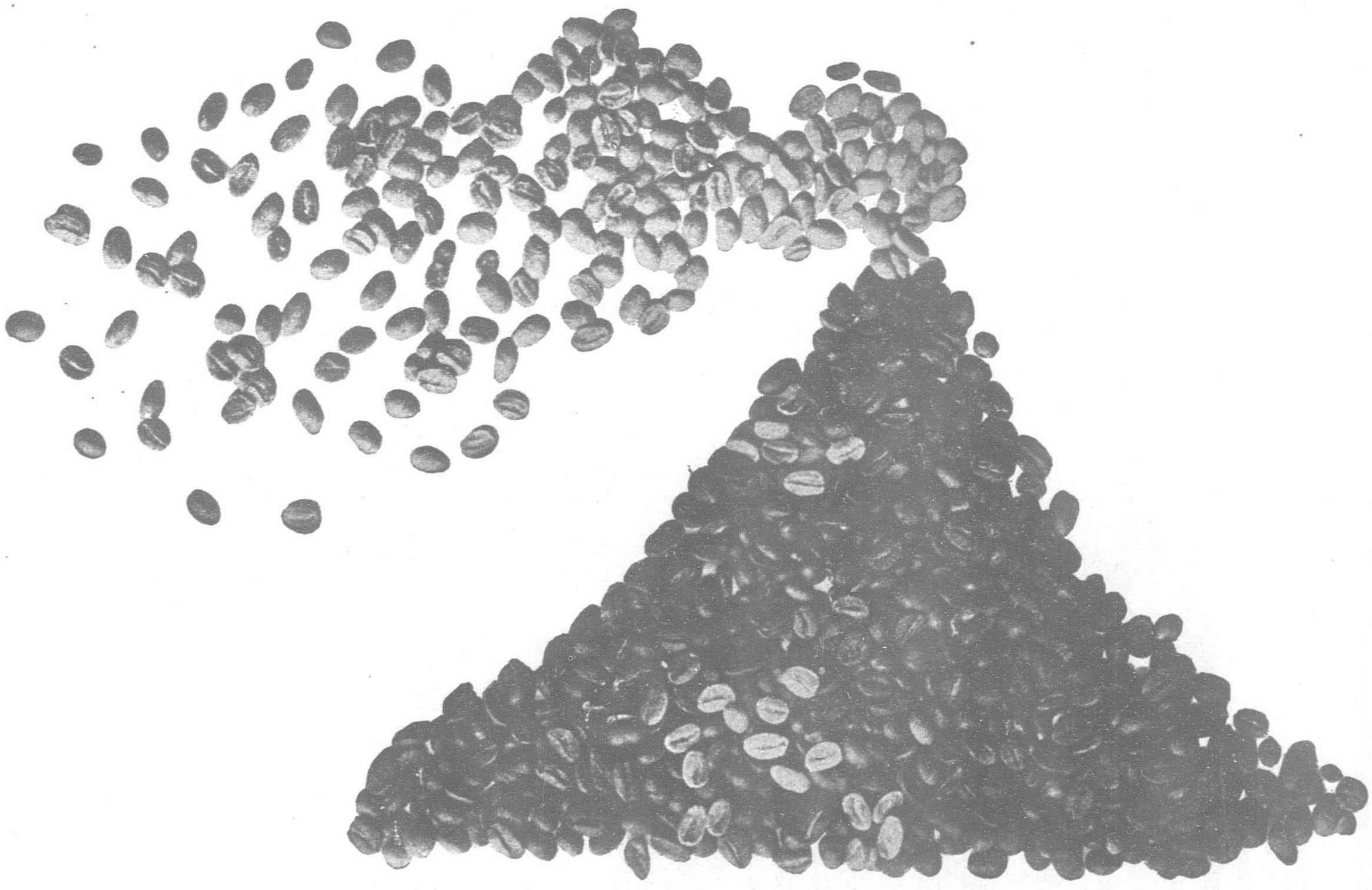
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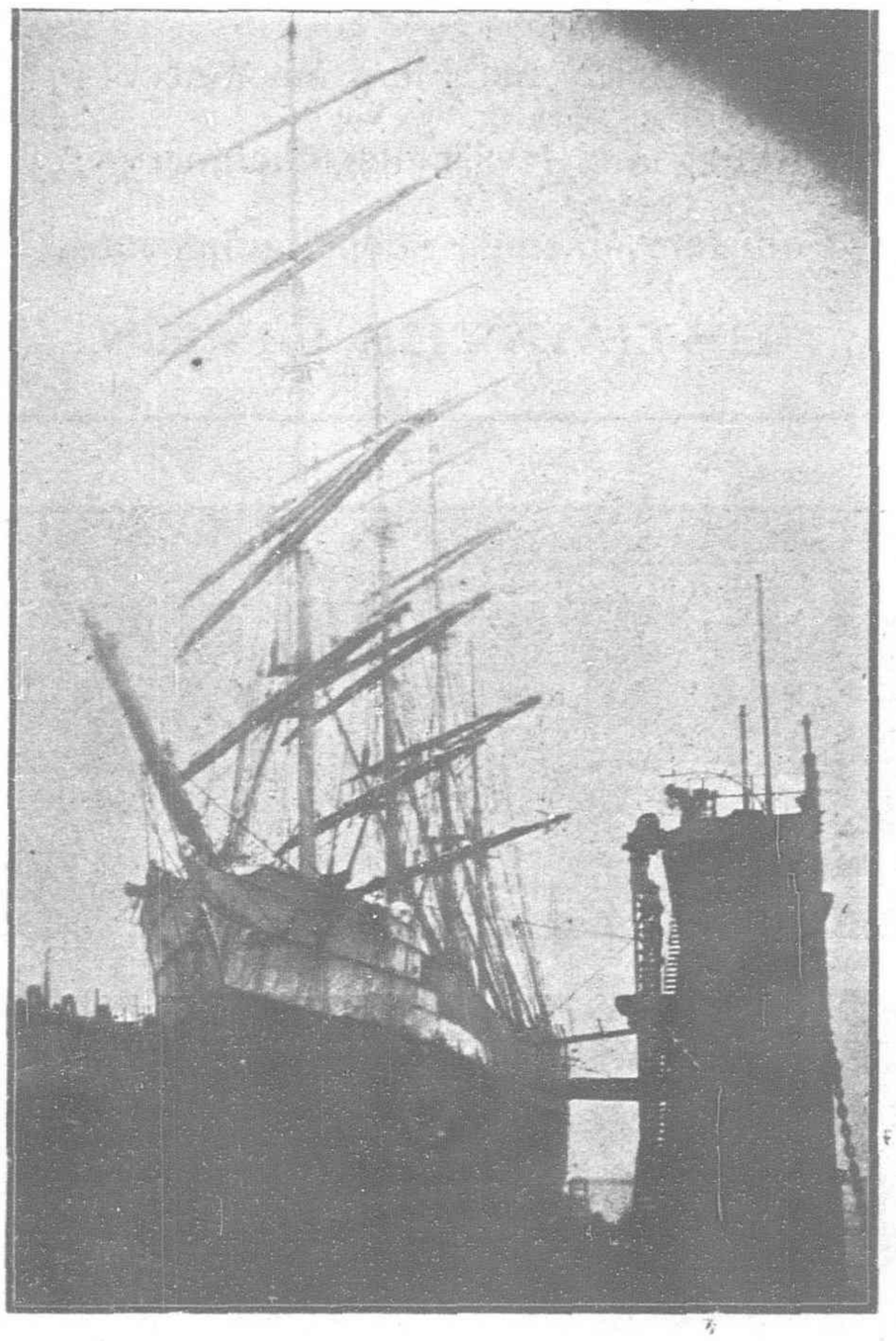
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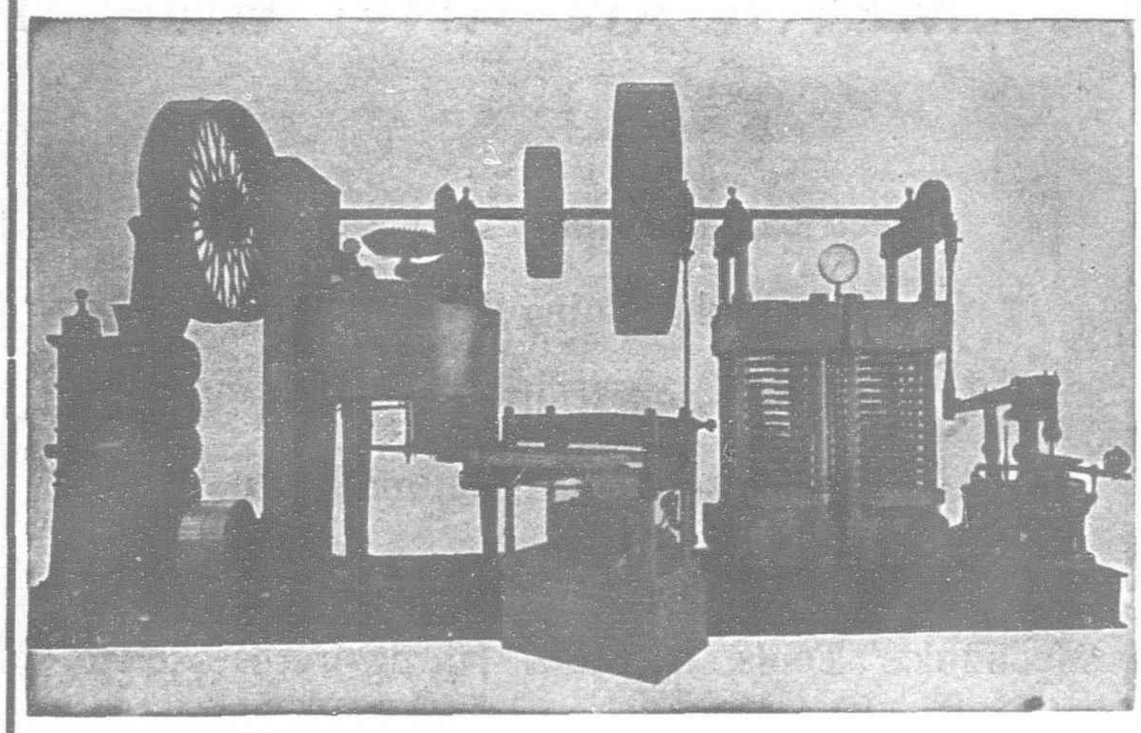
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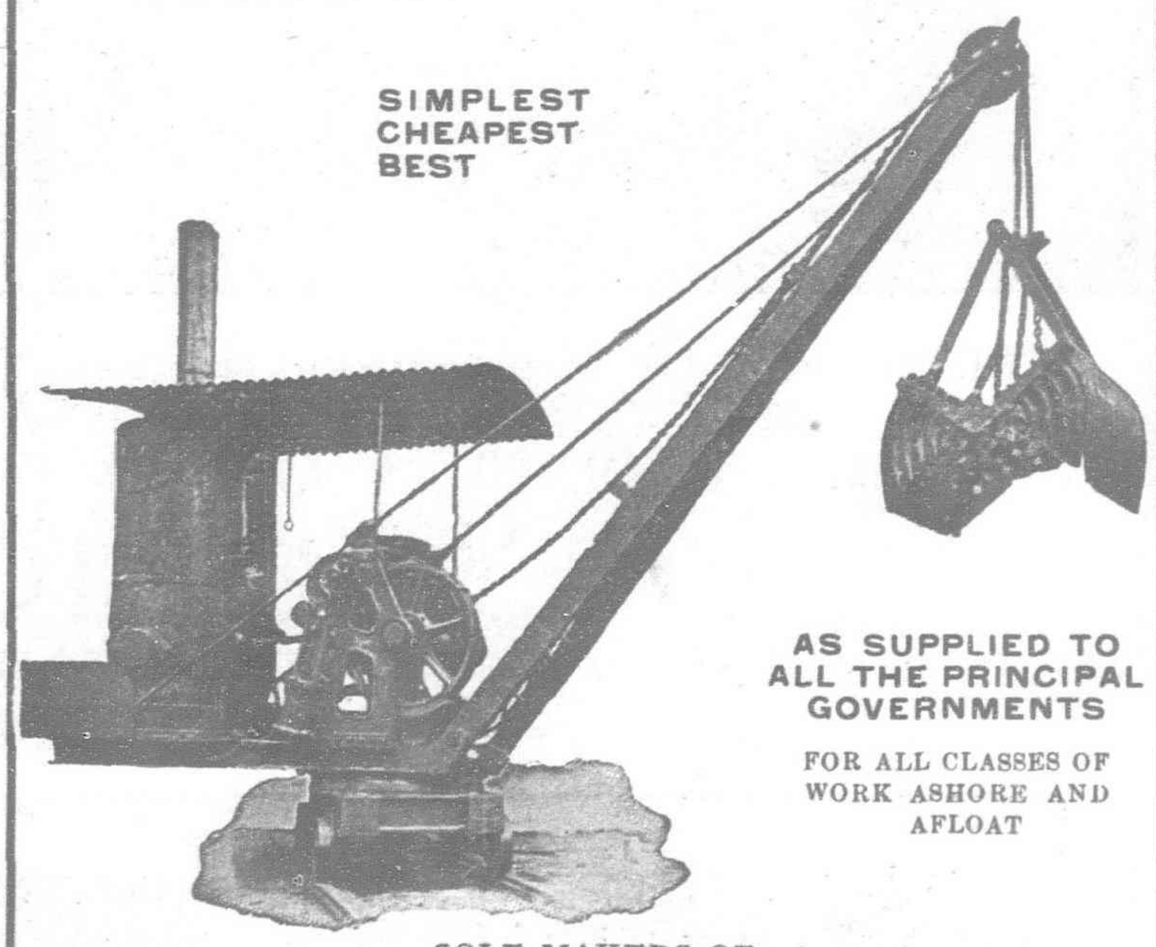
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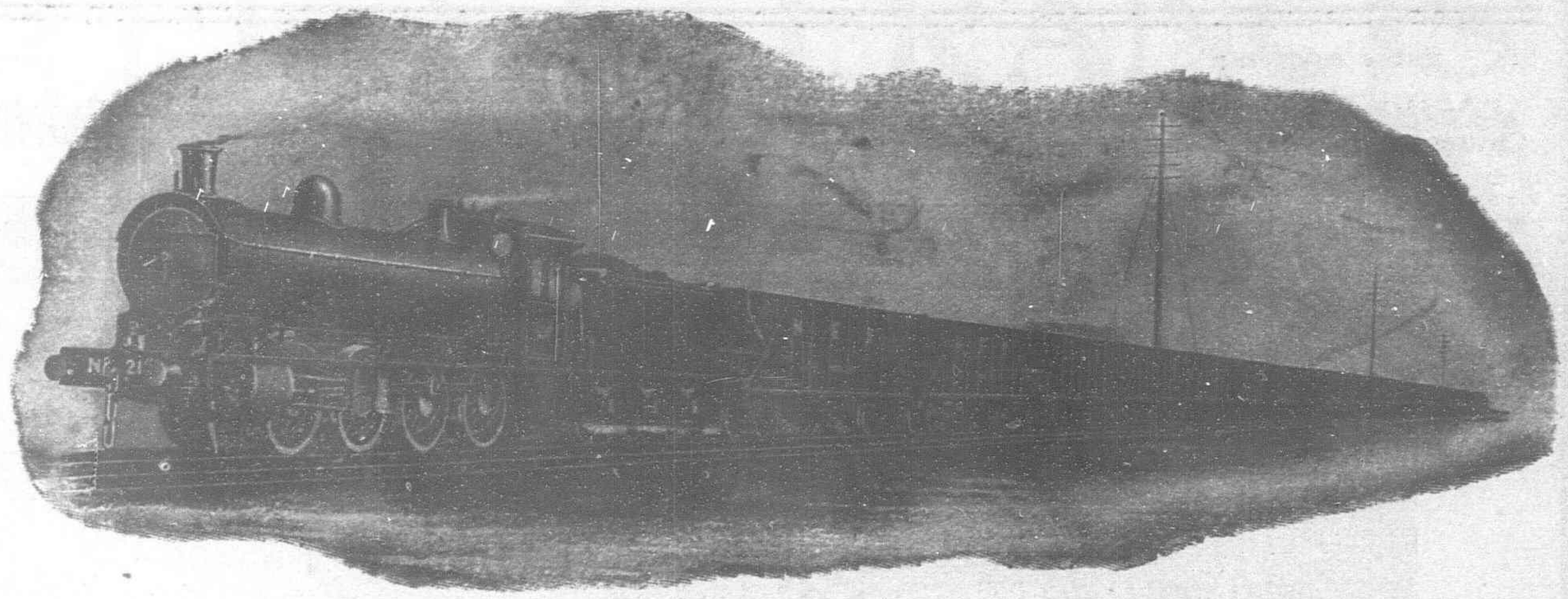
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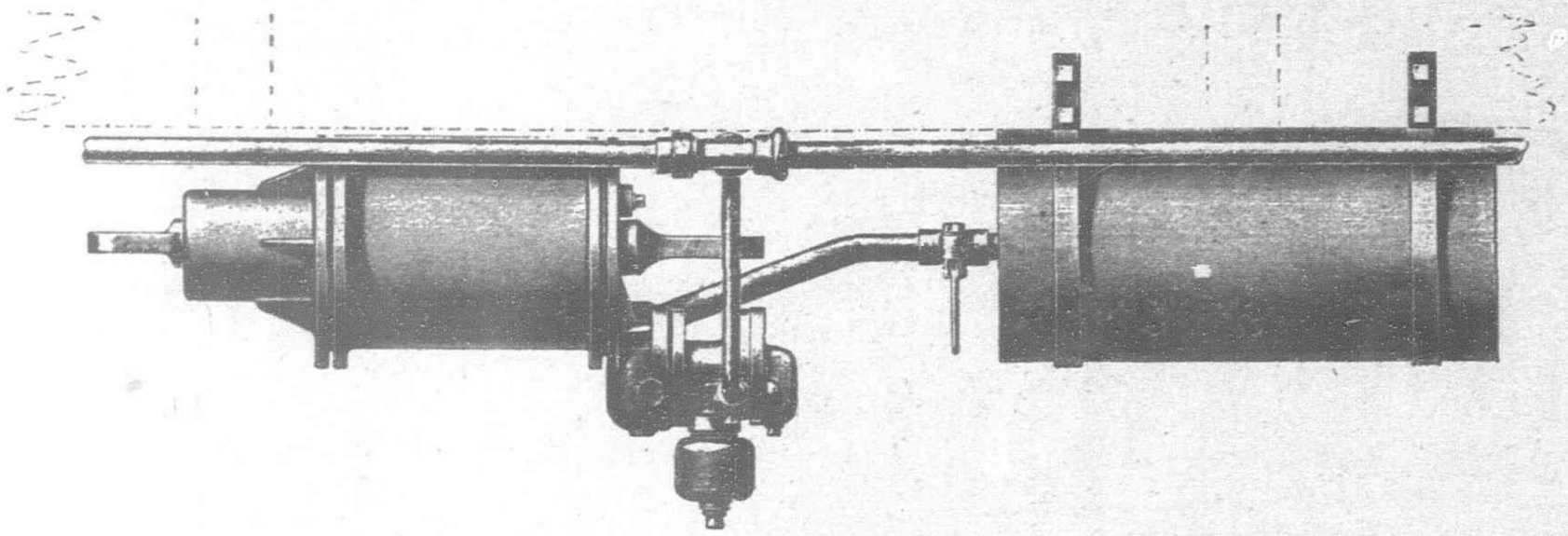
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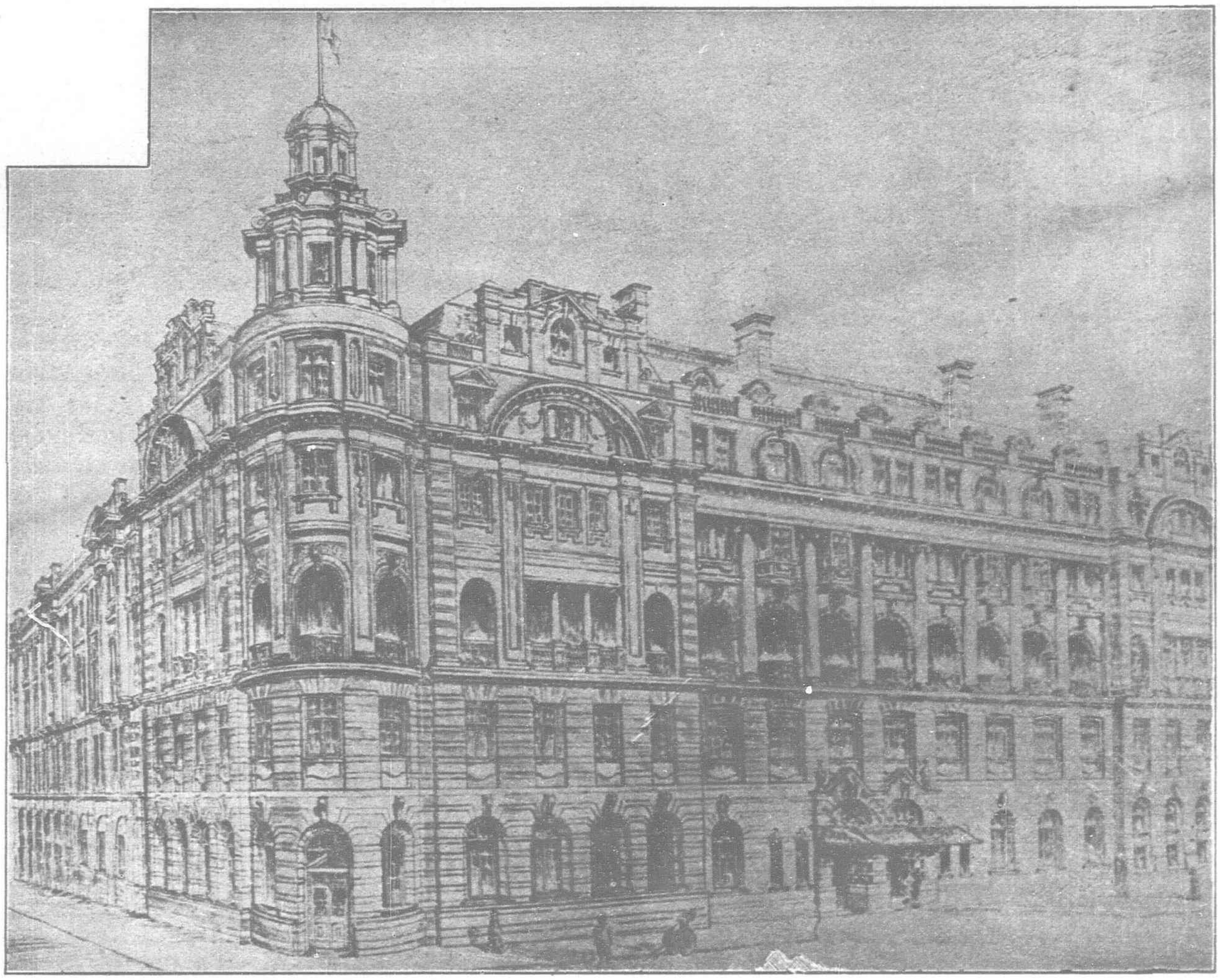
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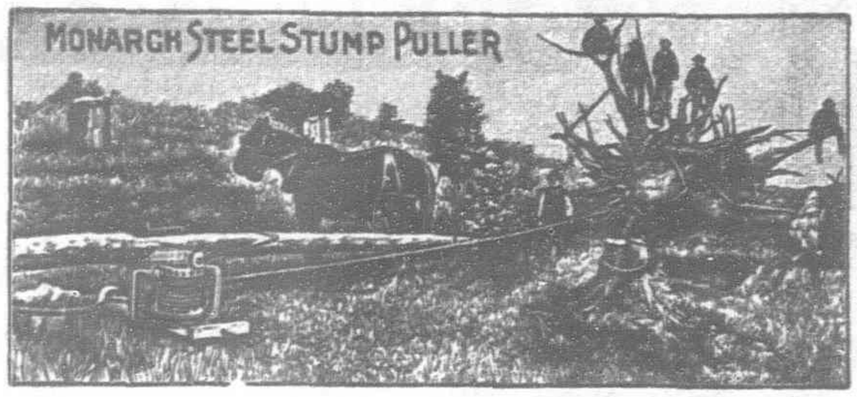
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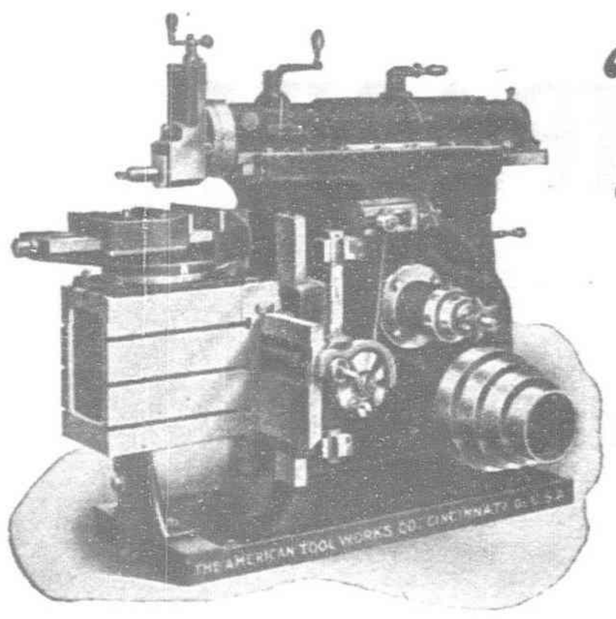
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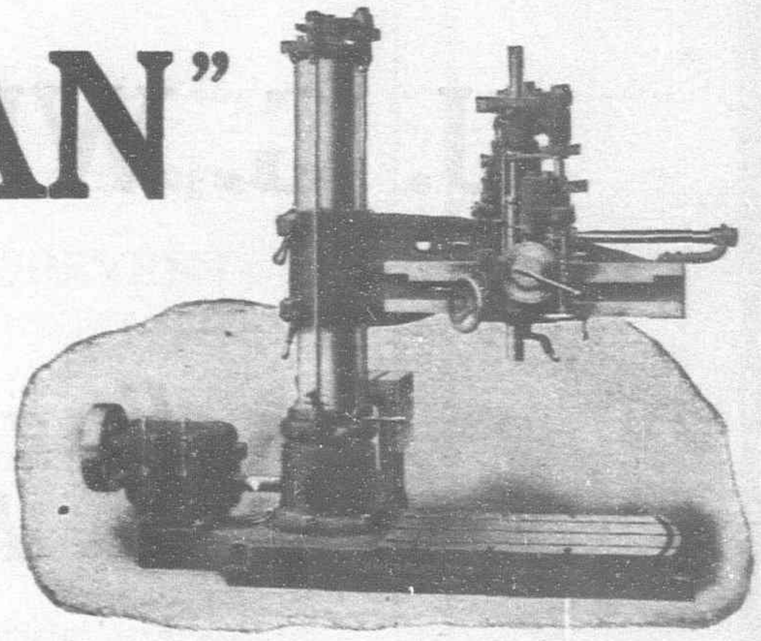
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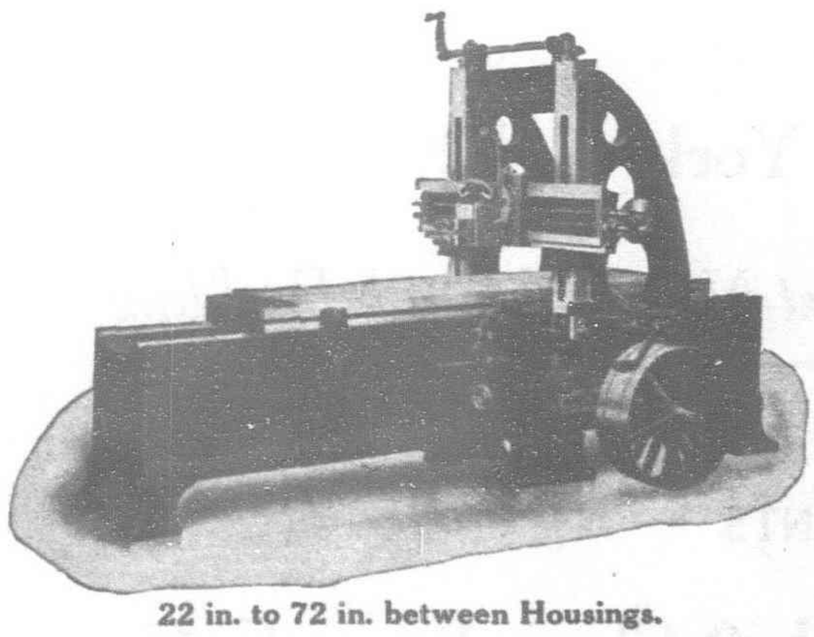
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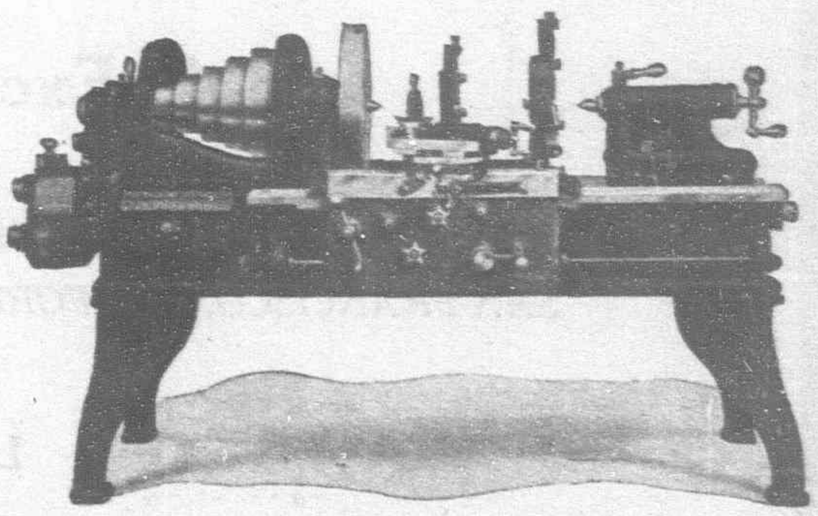
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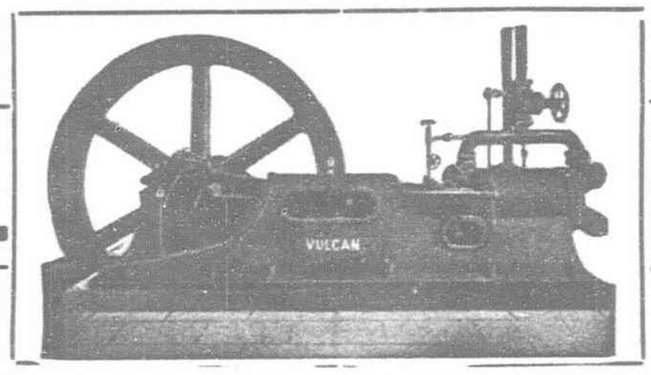
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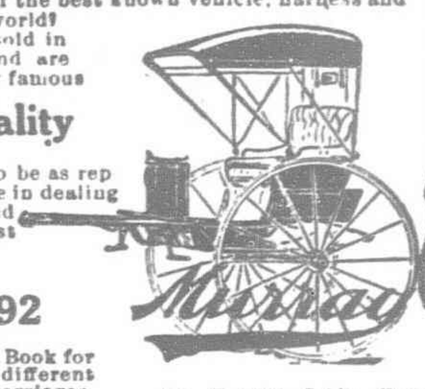
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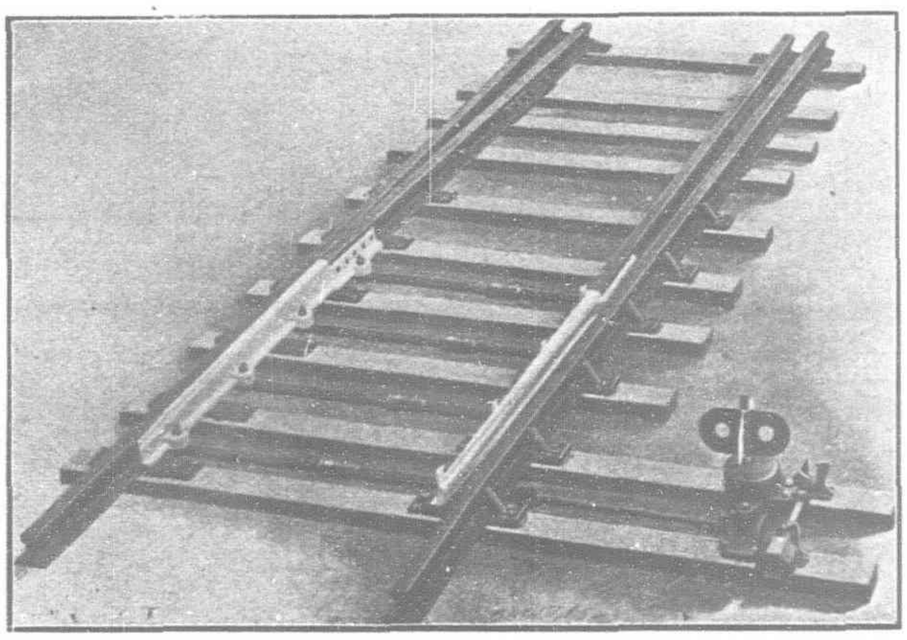
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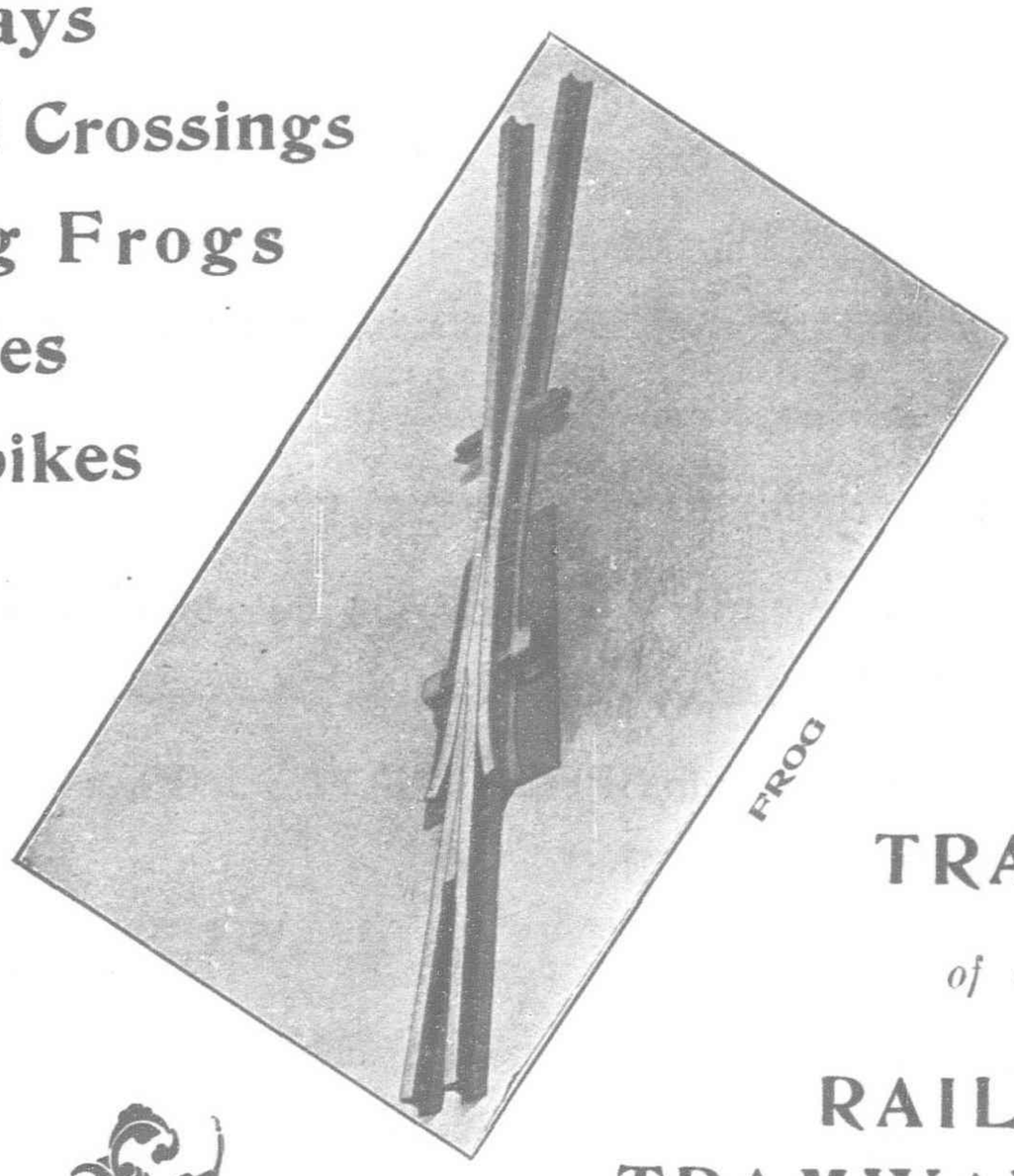
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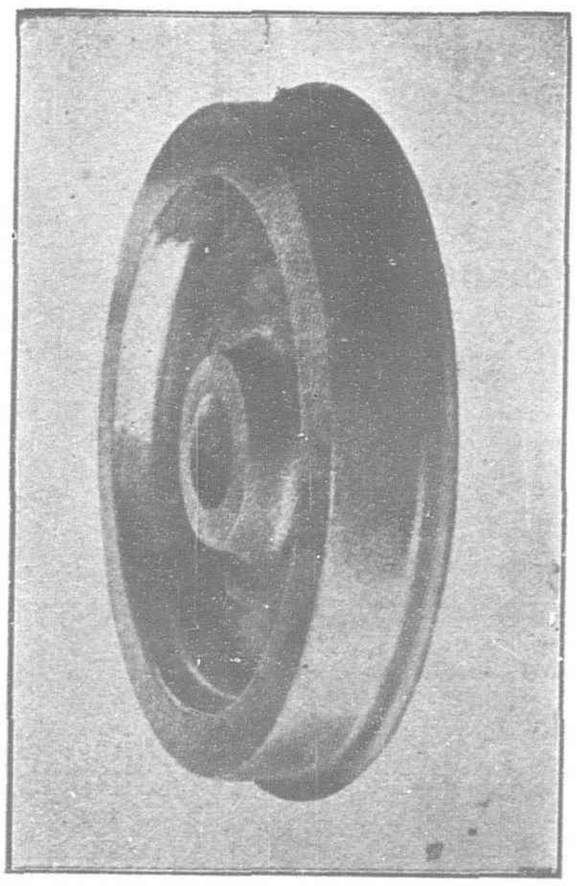
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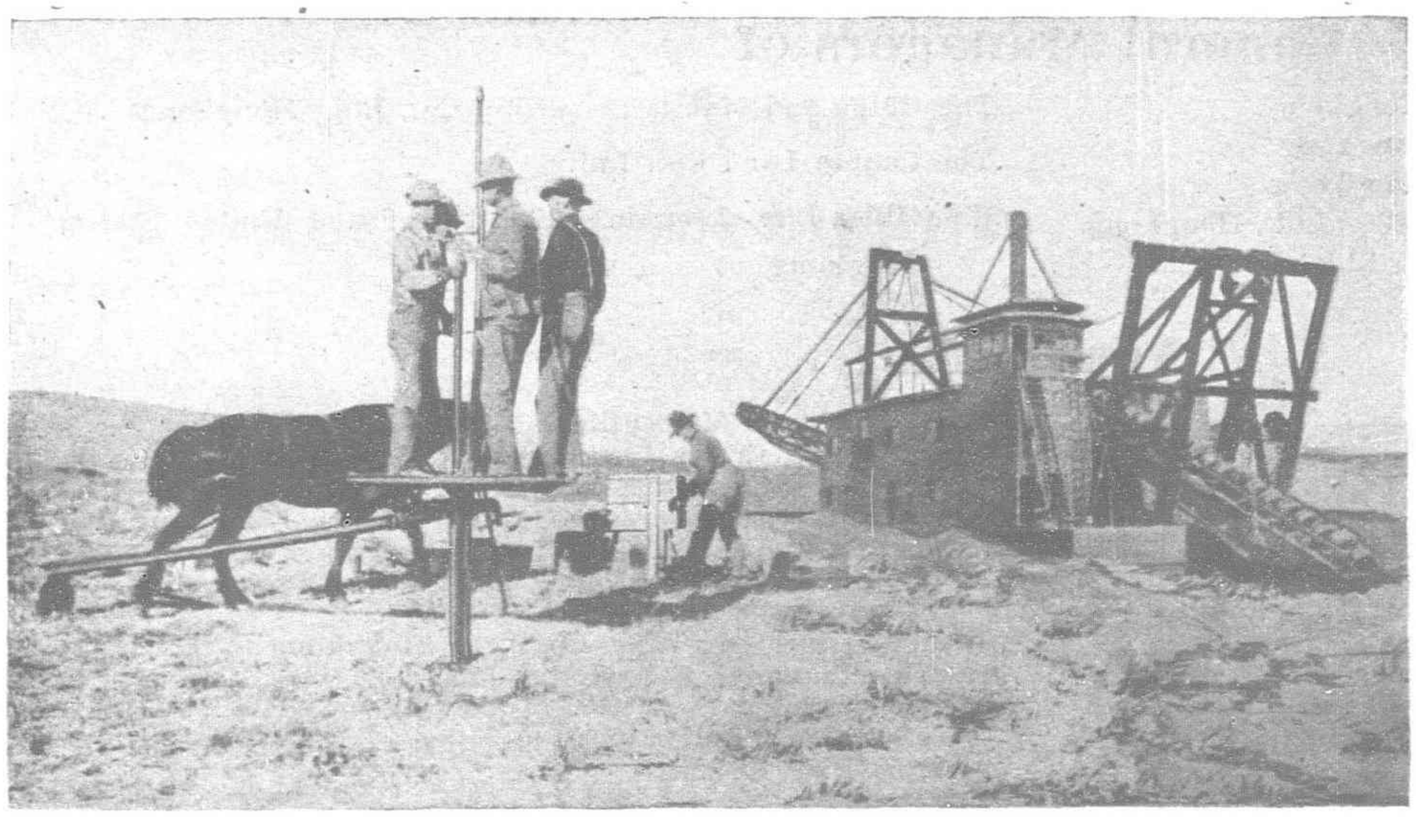
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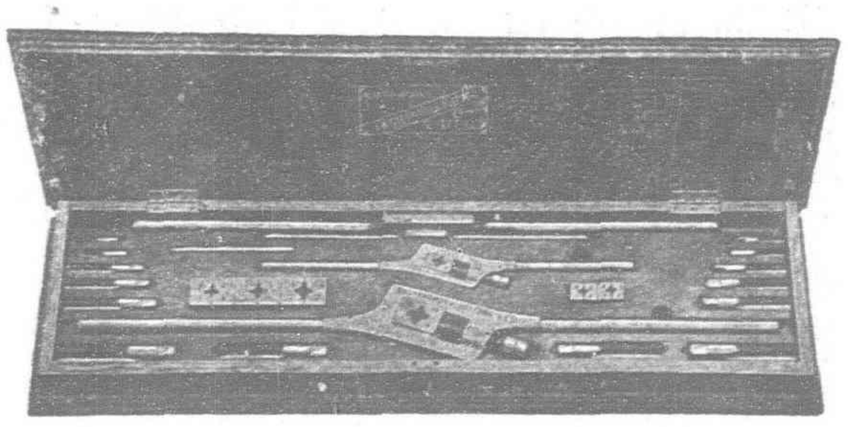
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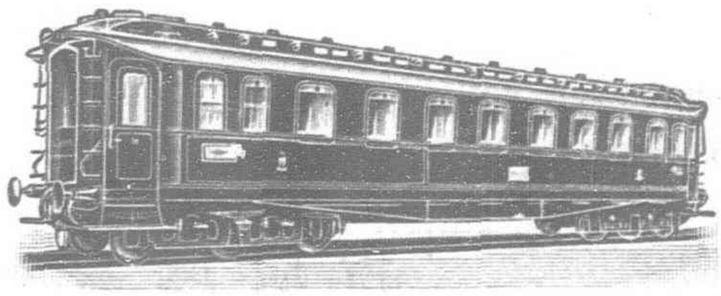
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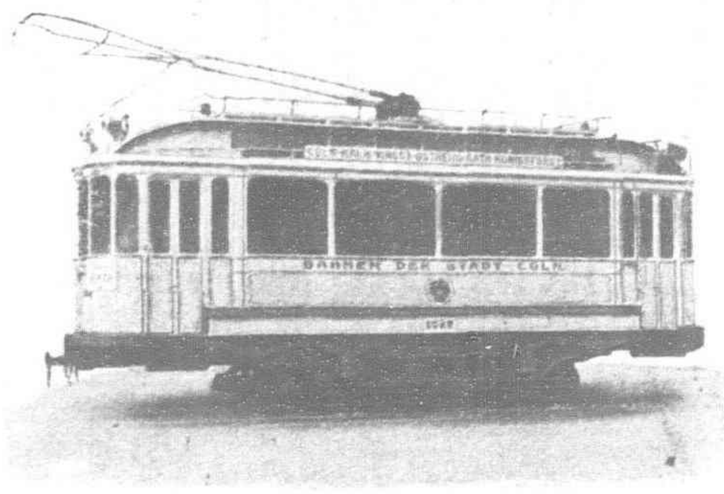


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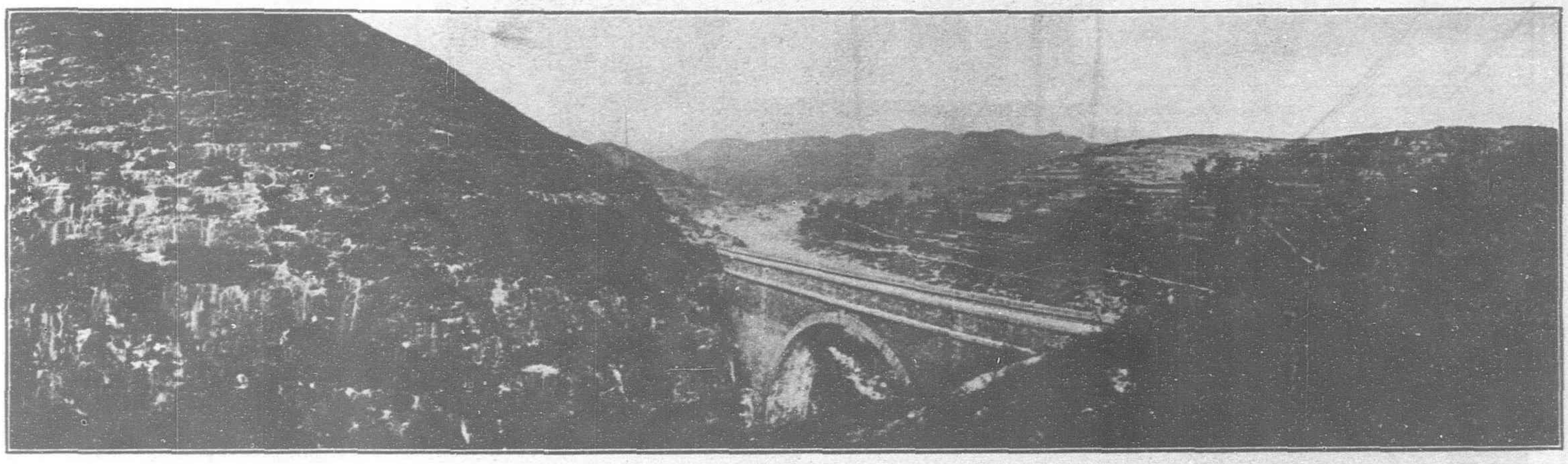
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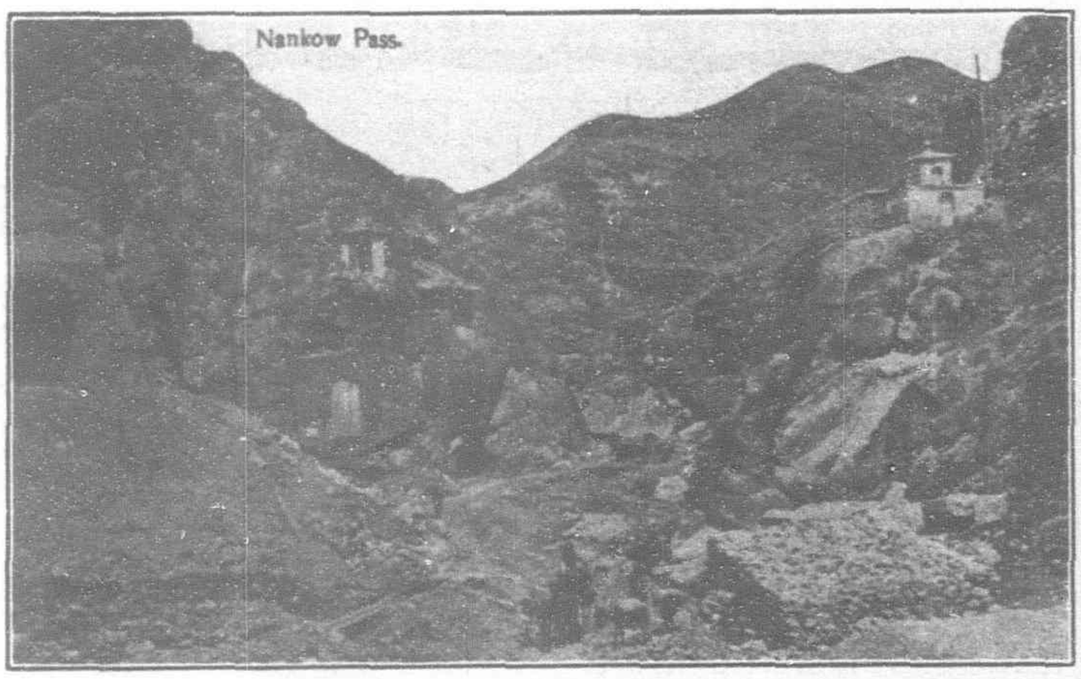


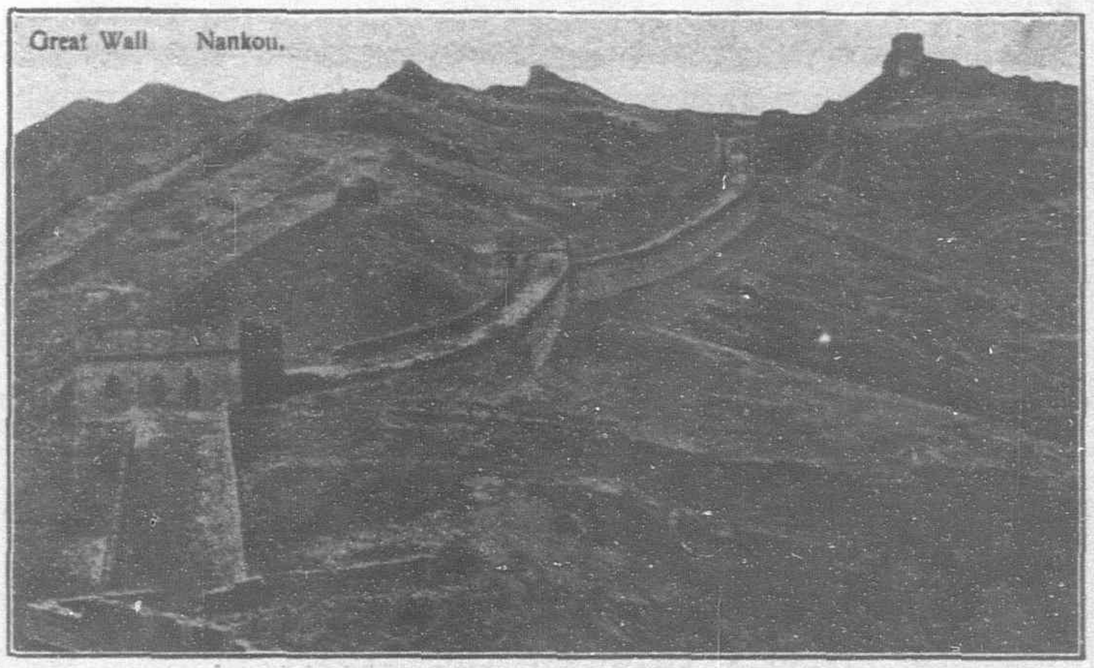
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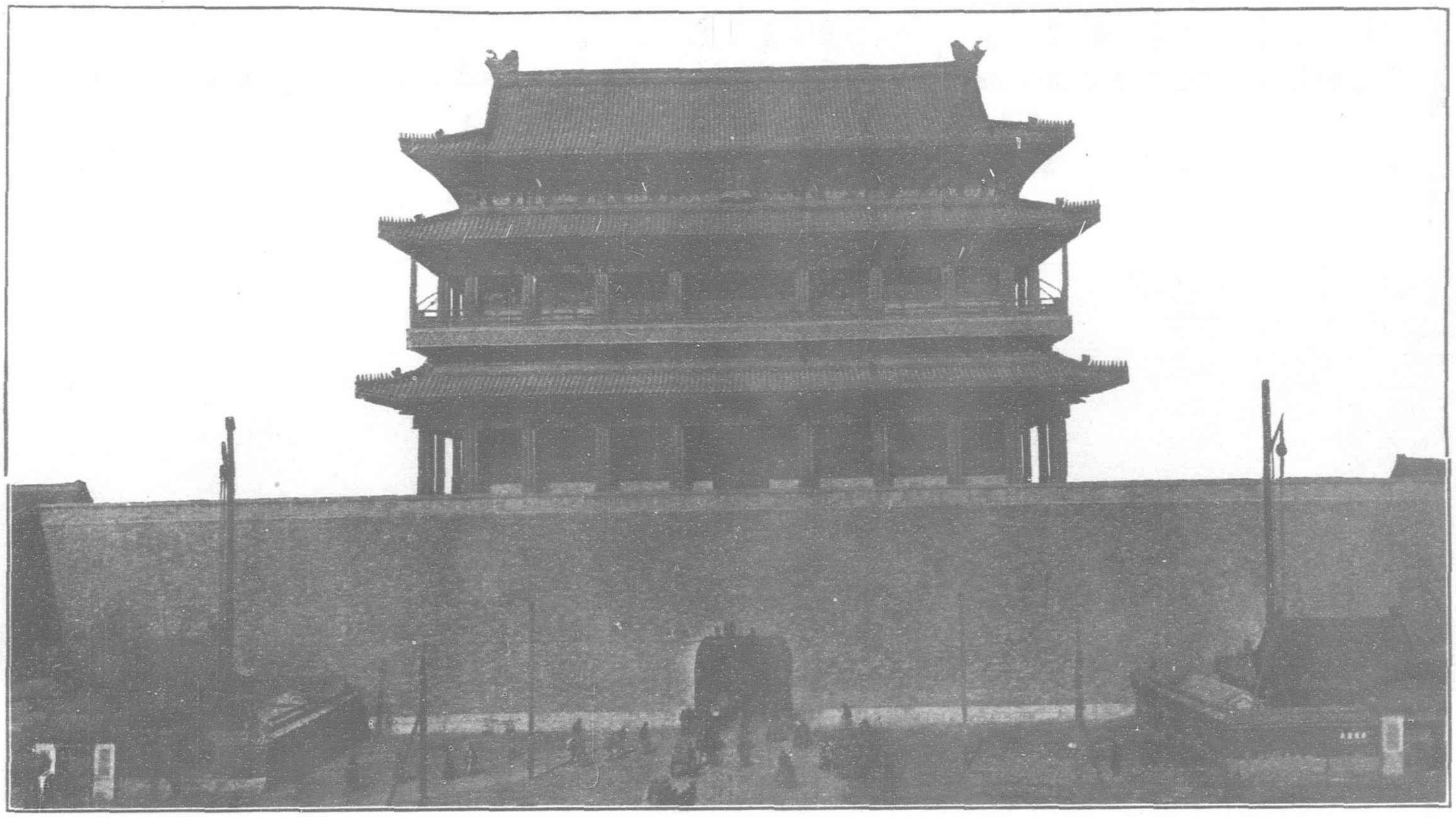
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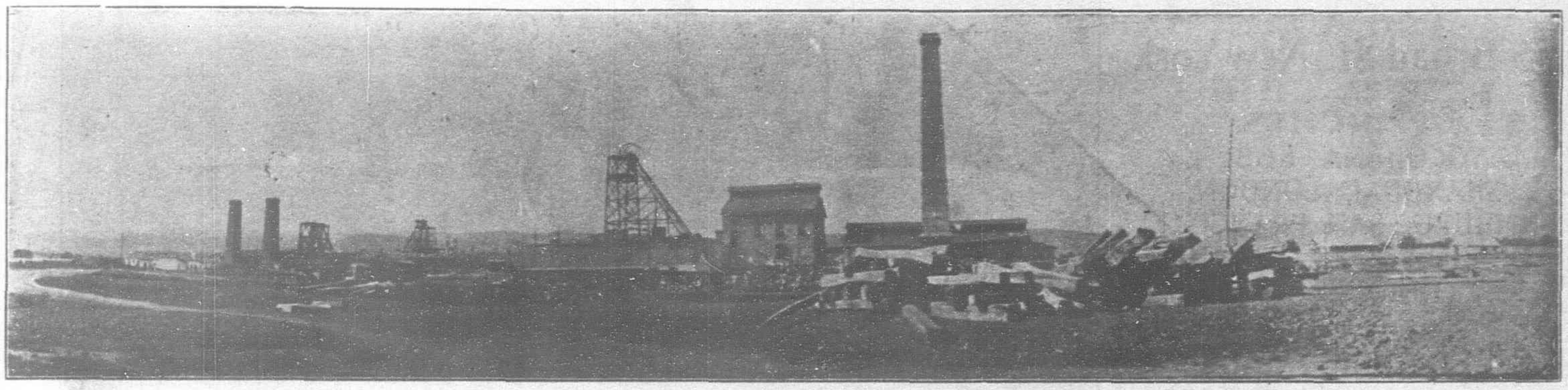
This line passes through the Heart of the Empire and enables the traveller to and from Europe to catch a glimpse of Old China. Ancient walled cities, temples and pagodas are seen from the comfortable seats of the weekly trains de luxe operated by this line. From Peking, the great capital of the oldest civilization in the world, the train departs from the famous Chien-Men and carries the traveller through the historical and legendary portions of the Empire, to the modern industrial center at Hankow—the Chicago of China. Connections are made with the Cheng-tai Railway at Chengtingfu, with the Tao-Ching Line at Sin Siang-sien, and at Chengchowfu with the Pienlo Line.

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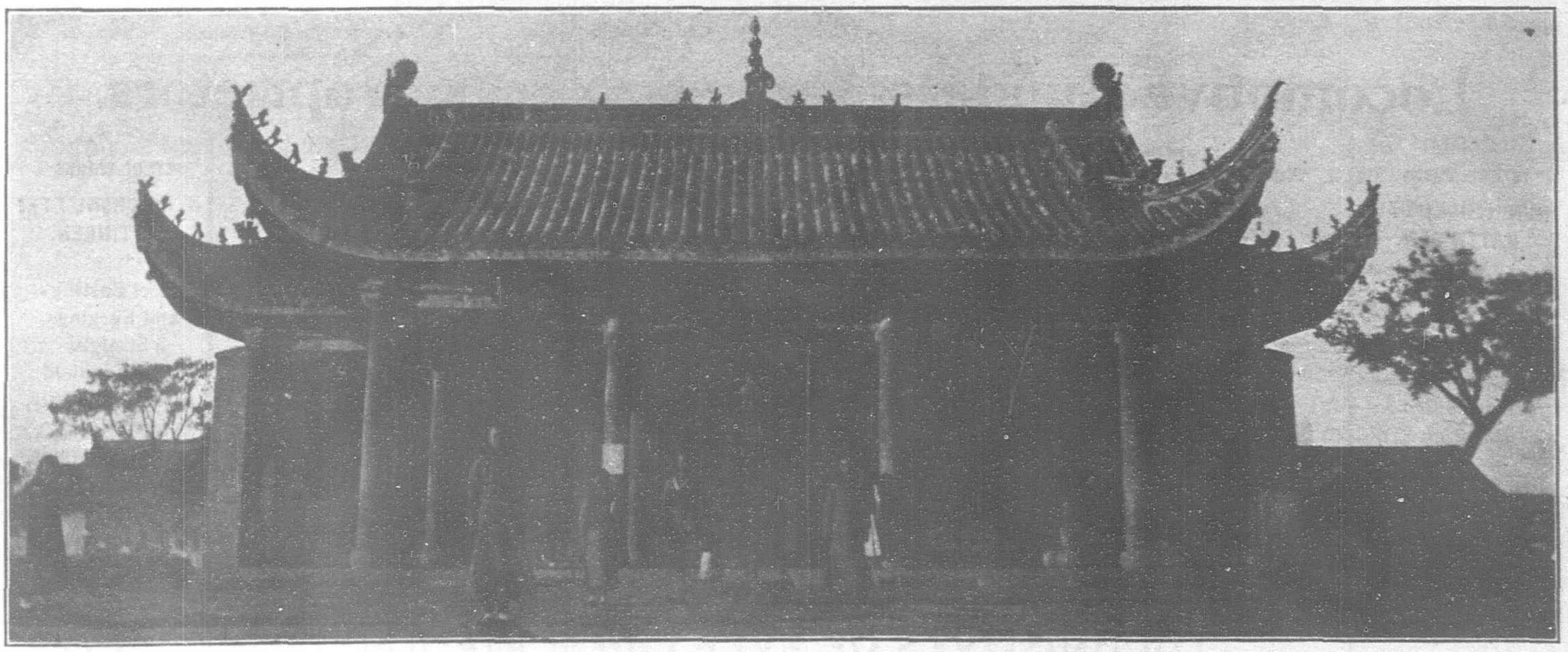
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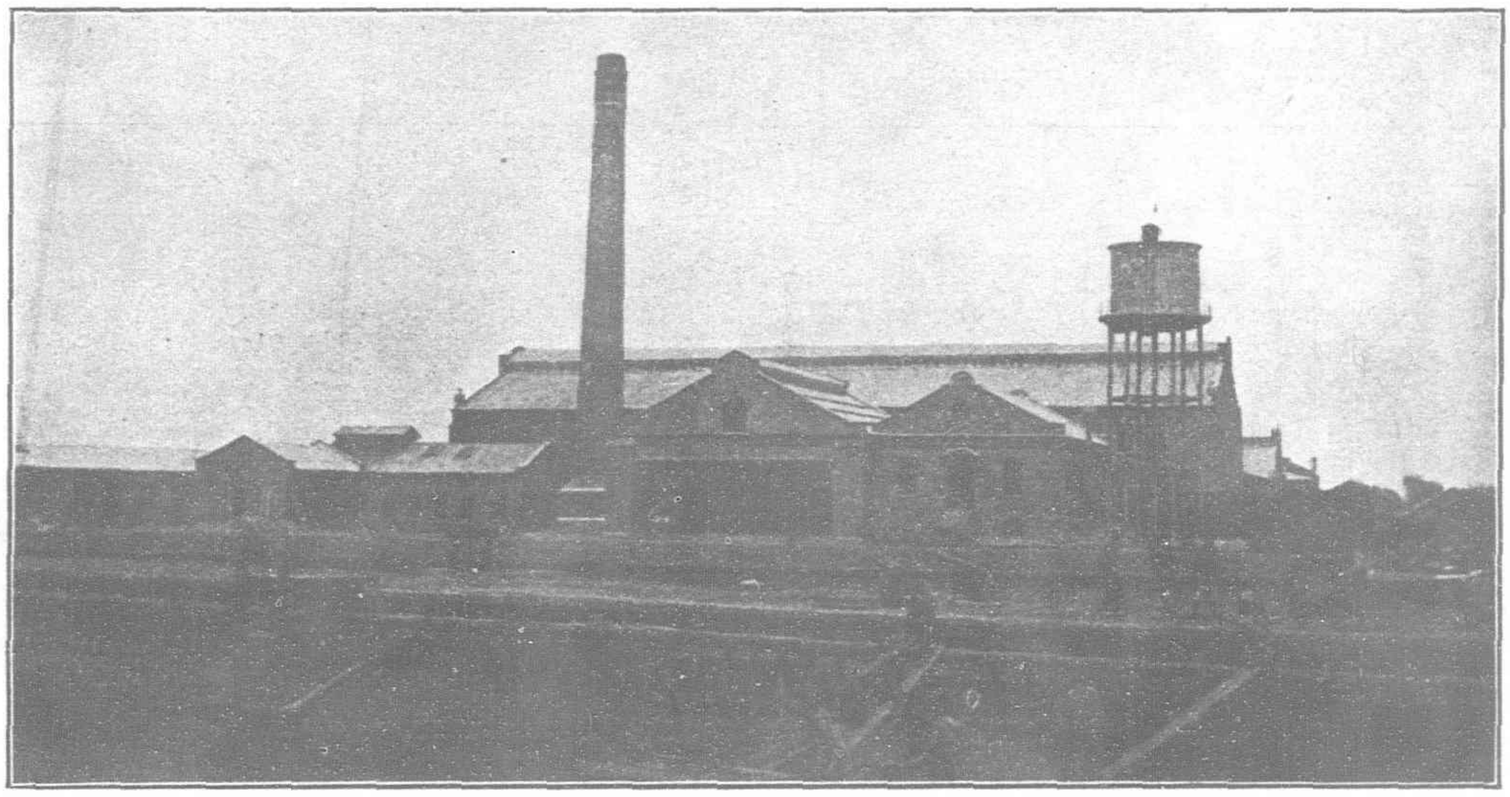
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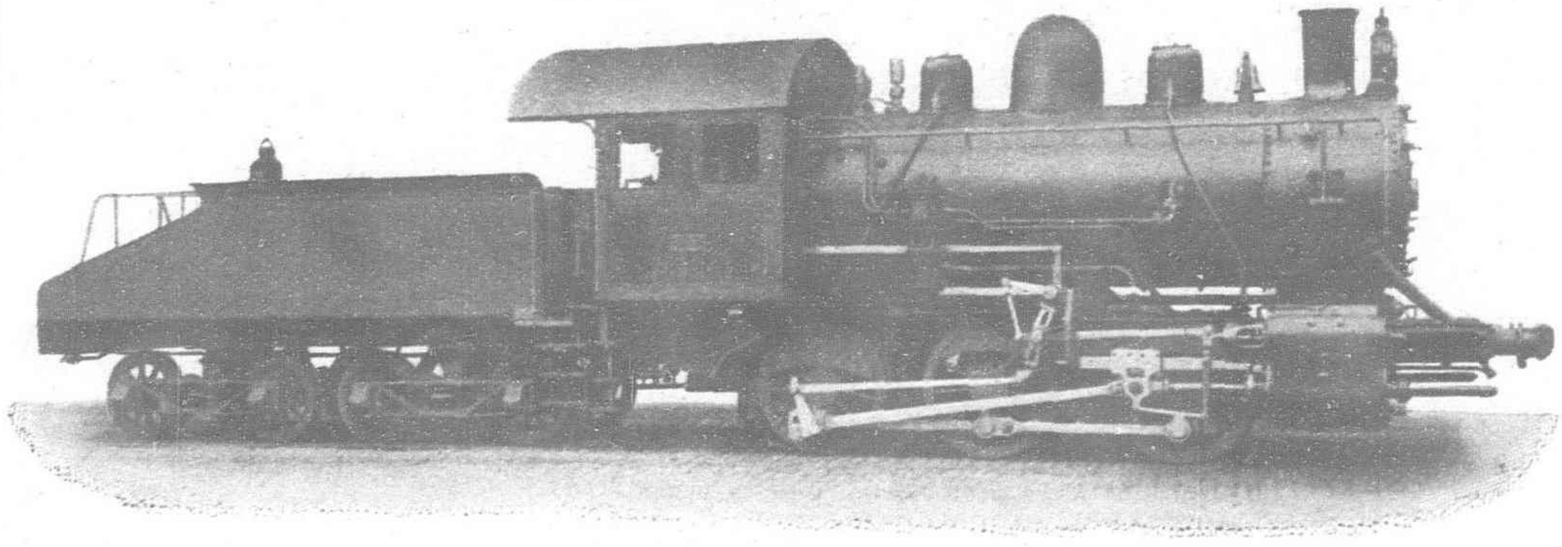
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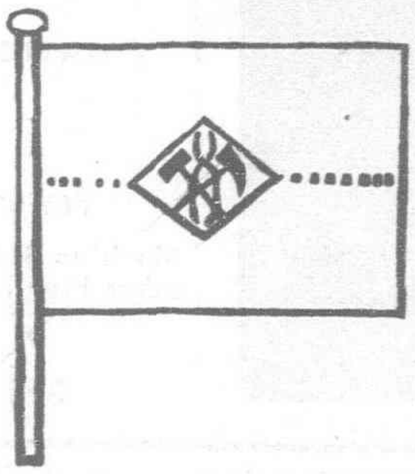
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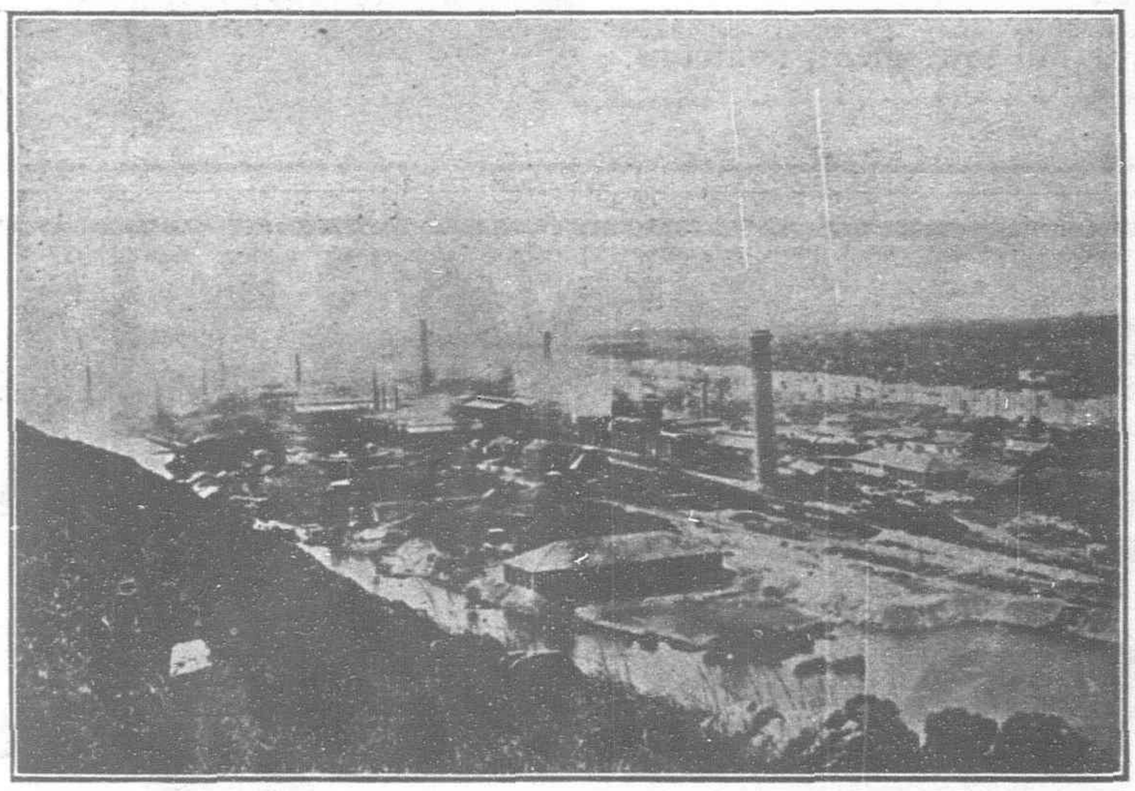
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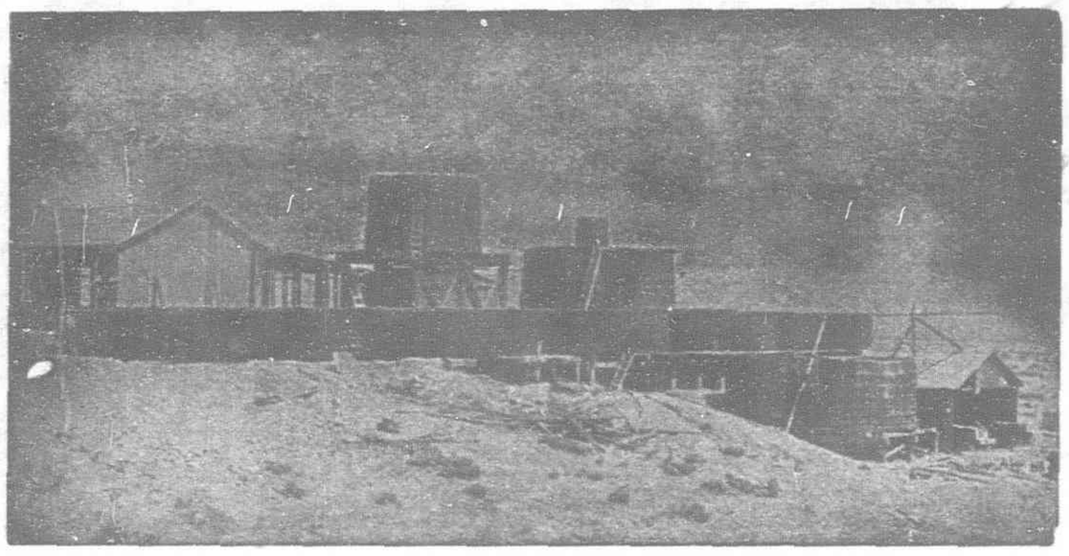
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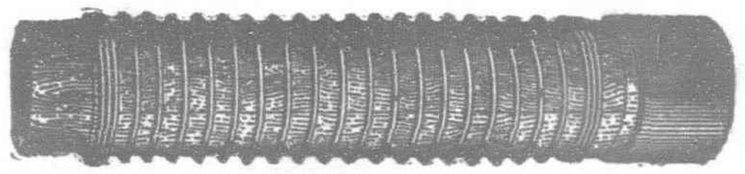
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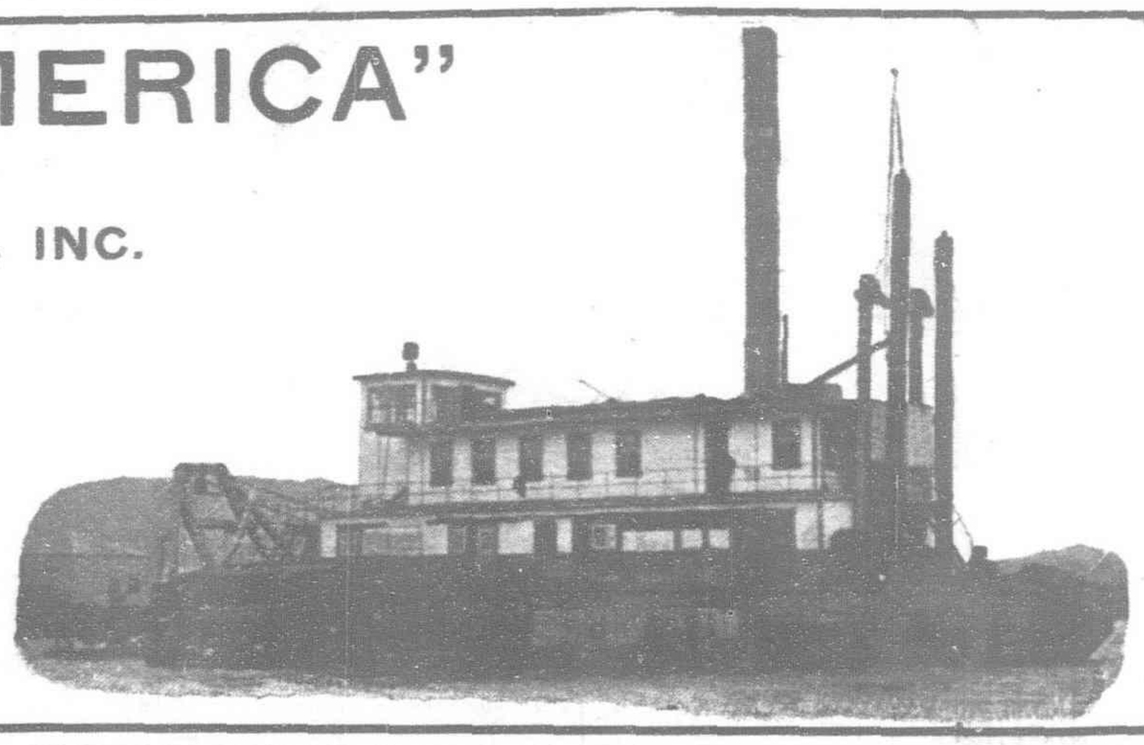
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THE FAR EASTERN REVIEW

COMMERCE • ENGINEERING • FINANCE

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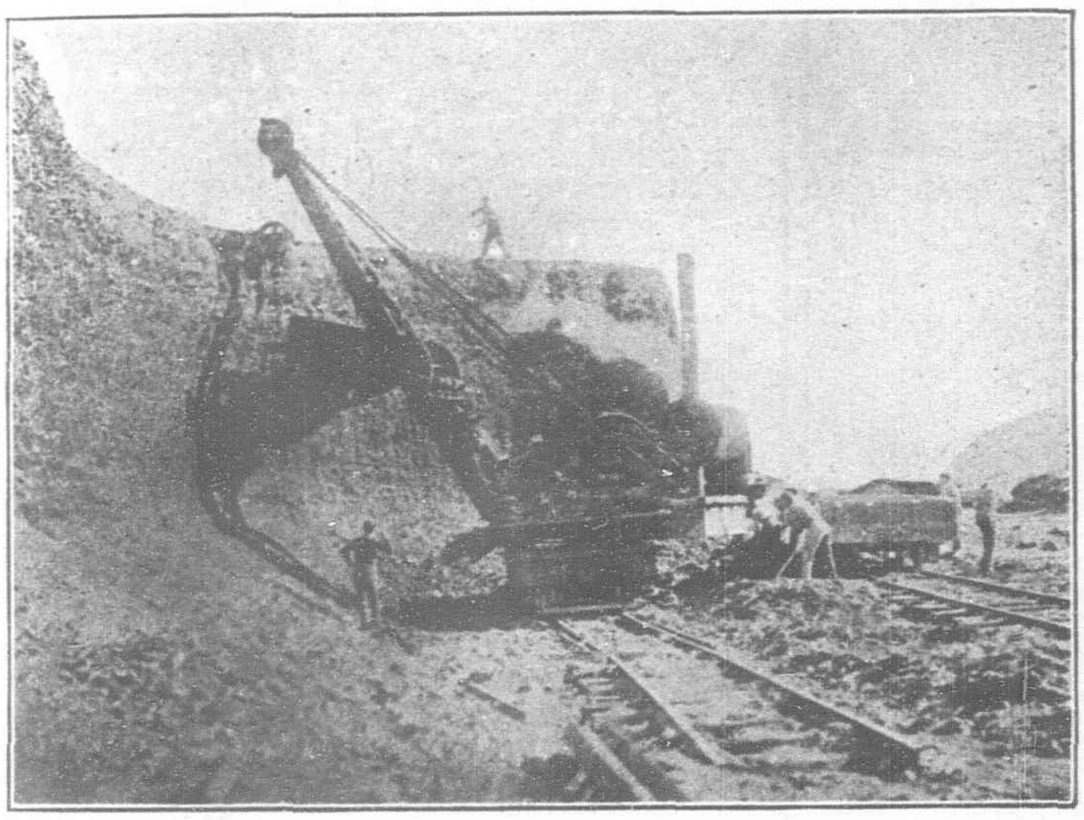
NEW ZEALAND RAILWAYS AND PUBLIC WORKS

The report of the Hon. Roderick McKenzie, Minister of Public Works for New Zealand, for the year ended March 31, 1910, just received, contains a comprehensive review of the activity of the department. In all for the year £2,218,975 were expended under the different heads and the amount charged to Public Works Fund to date was £52,617,988, a remarkable figure when the area and population of the colony are considered.

ernment control there were 2,716 miles, 48 chains of railroads in operation which represented a total outlay of £29,918,488 or approximately £11,014 per mile. For the year 1911 the total estimates submitted for railway construction purposes amount to £1,000,000.

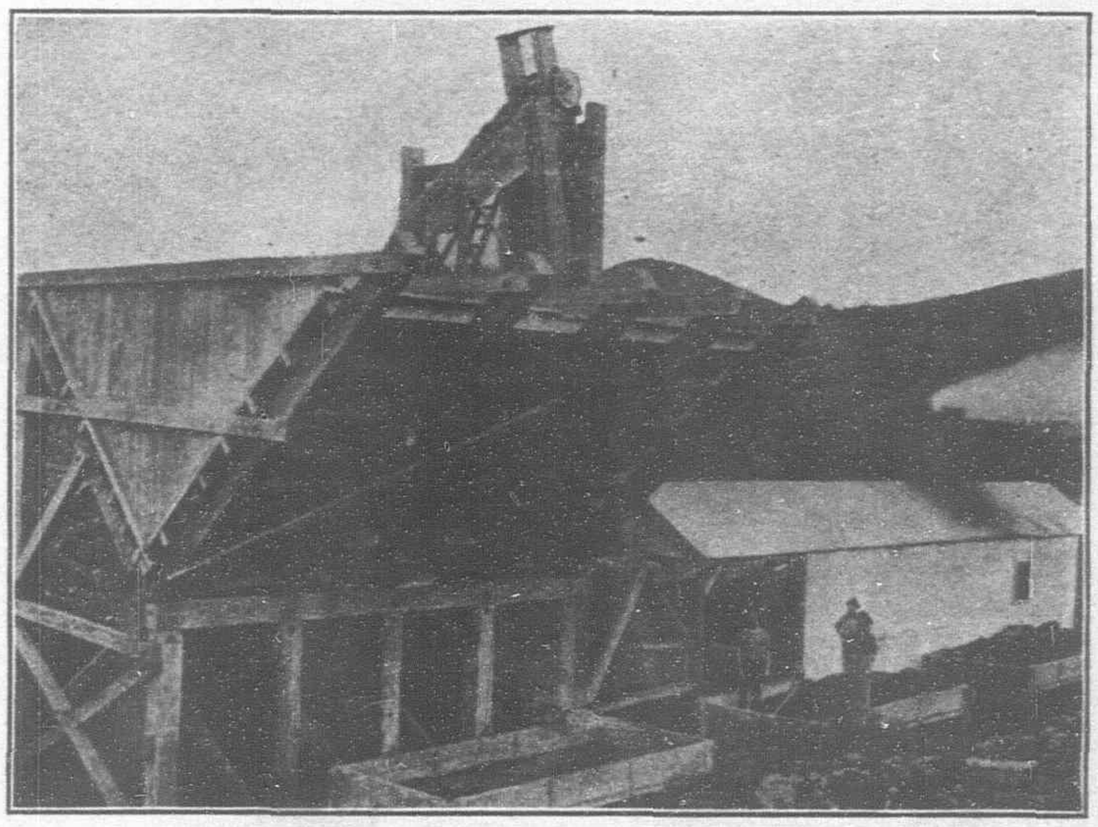
ROLLING STOCK AND WORKSHOP MACHINERY.—The total amount expended during the year in this department included £228,332 for rolling stock and machinery, while the

comprehensive report of Mr. R. W. Holmes, Engineer-in-Chief of the Department, so that the Government is now in possession of complete data upon which to base a comprehensive campaign. The most complete reports refer to the Lake Coleridge Scheme and the Hutt River project and the following comparative table presents the estimates submitted by Messrs. Hancock, Hay and Birks respectively with that of Chief Engineer Holmes.



From Official Report.

STEAM "NAVVY" AT WORK LOADING BALLAST-CARS NEAR CASS STATION, MITLAND RAILWAY, NEW ZEALAND



BALLAST CRUSHING PLANT ON THE OPUA-GRAHAMTOWN RAILWAY, NEW ZEALAND

RAILWAYS.—Of the total of £2,149,946 expended for public works during the year the amount represented by construction of new railway lines was £786,952 and of additions to open lines £468,518, approximately, a total of £1,155,570 exclusive of £59,282 for expenditure on the new Hutt road of £67,244.

During the year, railway construction covered the opening of ten sections in all, an aggregate of 61 miles, 6 chains.

Detailed reference is made to these sections which may be more clearly understood by reference to maps reproduced by courtesy of the Minister of Public Works as follows:

	M.	ch.	Opened.
Ruatapu to Ross.....	7	21	1st April, 1909.
Waihoaka to Tuatapere	8	7	1st Oct., 1909.
Riversdale to Waikaia.	13	70	1st Oct., 1909.
Catlin's to Houipapa...	2	30	17th Dec., 1909.
Towai to Hukerenui....	4	31	3rd May, 1910.
Wellsford to Te Hana..	3	27	16th May, 1910.
Huiroa to Te Wera.....	7	0	20th June, 1910.
Ngahere to Blackball...	3	40	16th July, 1910.
Domett to Mina.....	3	63	1st Aug., 1910.
Lawrence to Big Hill...	7	37	Ready to open.

The above shows an average cost of approximately £13,000 per mile including equipment, etc. At the close of the year under government control there were 2,716 miles, 48 chains of railroads in operation which represented a total outlay of £29,918,488 or approximately £11,014 per mile. For the year 1911 the total estimates submitted for railway construction purposes amount to £1,000,000.

ROLLING STOCK AND WORKSHOP MACHINERY.—The total amount expended during the year in this department included £228,332 for rolling stock and machinery, while the sum of £89,758 was spent in additions to station accommodations, signals and interlocking gear, telegraph and telephone facilities, lighting of stations, crushing and excavating machinery, etc., a total of £318,090.

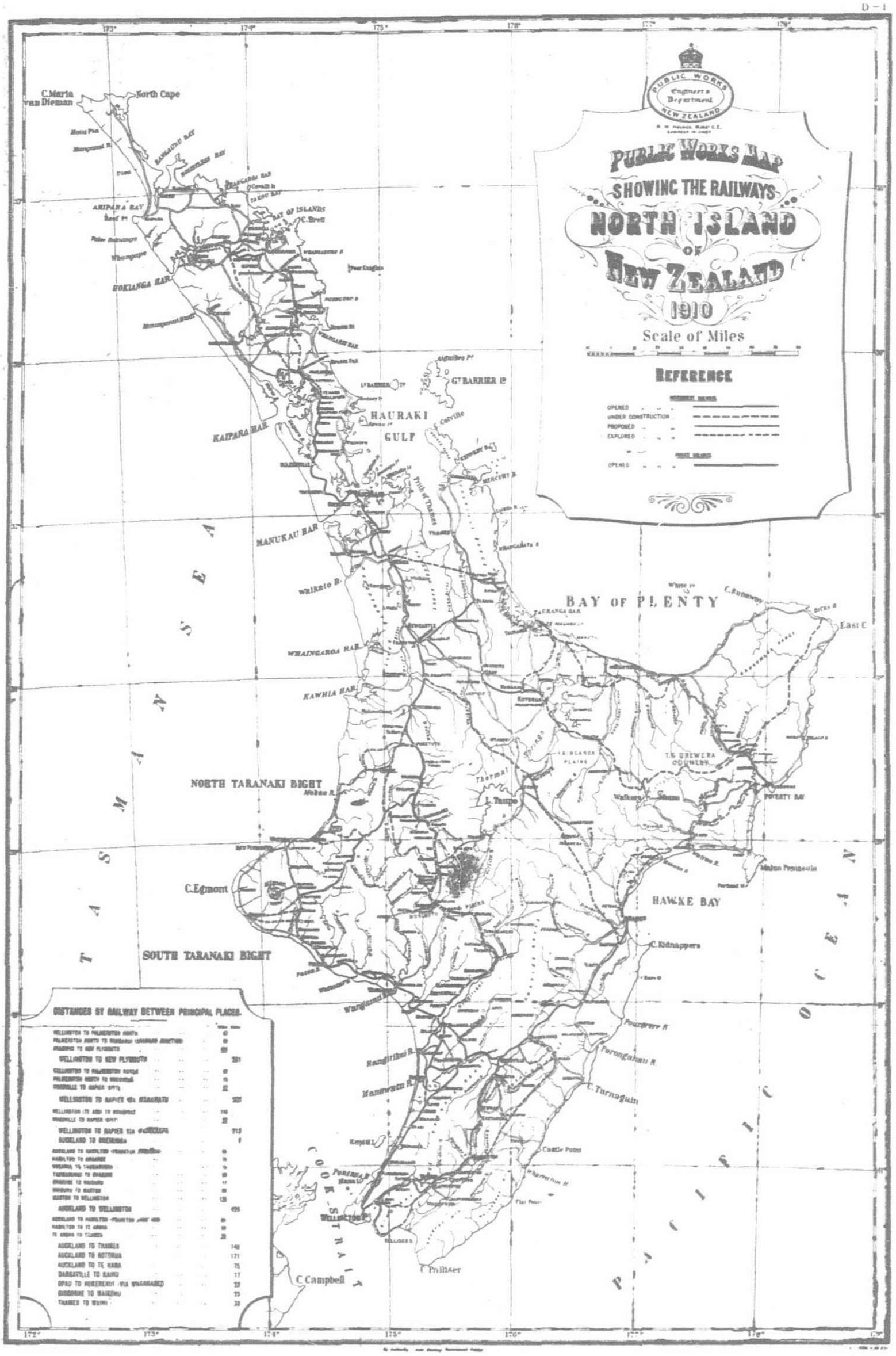
The proposed vote for 1911 in this department under the different headings amounts to £350,000.

LINES SURVEYED AND UNDER CONSTRUCTION.—At the end of the fiscal year 1910 there were 1272 miles of new lines surveyed, 30 miles under formation and 45 miles ready for the steel on the North Island system. On South Island there were 540 miles of new lines surveyed, 51 under formation and 59 ready for track laying.

HYDRO-ELECTRIC DEVELOPMENT. — The government of New Zealand has been making extensive investigation into the feasibility of utilizing the colony's water power for the development of electric energy for manufacturing enterprises and there is every indication that a few more years will see extensive plans covering two very large projects, well under way. Under the direction of the Department of Public Works, the services were secured of Mr. Lawrence Birks, B. Sc., A. M. S. C. E., A. M. I. E. E., and other experts, who went into the details of demand for power, working cost, etc., supplemented by the

	Hancock.	Hay.	Birks.	Holme.
LAKE COLERIDGE SCHEME				
Horse-power provided for.....	10,000	58,000 or 29,000	13,300	15,000
Estimated capital cost.....	£241,667	£700,000 or £440,000	£291,500	£421,000
Working-expenses per annum..	£58,792	....	£44,070	£44,500
Probable receipts per annum....	....	£200,000 or £100,000	£90,000	....
Probable profit per annum....	....	....	£45,930	....
HUTT RIVER SCHEME				
Horse-power provided for.....	....	17,000	13,300	12,500
Estimated capital cost.....	....	£470,000	£443,960	£422,000
Working-expenses per annum..	....	....	£50,639	£38,000
Probable receipts per annum.....	....	£50,000	£118,300	....
Probable profit per annum.....	....	....	£67,661	....

At the present time there is but one existing hydro-electric plant, Waipori, which supplies Dunedin. This plant was originally installed four years ago with a capacity of 2,000 kilowatts, but was increased last year to a plant capacity of 4,000 kilowatts. The capital outlay to date is £290,000. The transmission line of this scheme is 30 miles in length over rough country and the line pressure



35,000 volts. Deducting interest, depreciation, etc., the net balance was £4,242 last year.

In his report on the Lake Coleridge scheme Mr. Birks gives the following description:

"The lake constitutes an ideal storage reservoir. It is 11 miles long, and has an area of 14 square miles, 382 acres at its present level. By driving a tunnel through the hill to the Rakaia River, a distance of 68 chains, with a 4 chain approach canal at the lake end and 40 chains of pipe-line at the lower end, a head of 470 ft. is available. These headworks would cost £60,000, and by lowering the intake of the tunnel to 20 ft. below the existing lake-level, to regulate the flow, it would yield an average power of 5,500-horse power. By diverting the Acheron into the lake the power available could be increased to 7,600-horse power at an additional cost of £16,000; and by diverting a portion of the Harper River it could be further increased to 14,000-horse power at an additional cost of £34,000 00: making a total of £110,000 00 for headworks. The above horse-powers are for continuous working at 100 per cent. load-factor. At 50 per cent. load-factor the maximum power available in each case is double the above figures; and at the 28 per cent. power-factor estimated for the Christchurch demand the maximum power available is nearly four times the above figures. The estimates show that the maximum demand in Christchurch in five years' time will be 11,100-horse power (8,300 kilowatts); and the average, 3,460-horse power £(2,592 kilowatts). Allowing for all losses, this power will require an average flow of only 108 cubic feet per second throughout the year, and considerably more than this is available by regulating the lake-outflow without diverting either of the rivers. Allowing for transmission and transformation losses, I would recommend that a plant consisting of four generators, each of 2,500 kilowatts (3,400-horse power), be installed at once, and that headworks, foundations, and switchboard-panels be provided for two additional units of the same size. Of these four units, three would carry the maximum load if required, with a reasonable overload on each, up till the early part of the third year of operation, so that one unit could be dismantled for overhaul or repair without interfering with the operation of the station. During the third or fourth year of operation the question of adding a fifth unit to meet the increasing demand and providing a spare unit at full load will probably have to be considered.

"The water motors would be of the Pelton-wheel type, mounted on horizontal shafts coupled direct to the generators. These should operate at 2,500 volts, three-phase, with a frequency of 50 cycles per second. Two direct-current exciters would also be required, of 200 kilowatts each, which would also supply the lights in the station and staff-houses, and operate the travelling-crane and other station motors. These exciters would run at 120 volts direct current, and would be connected in parallel with a small storage-battery in order to maintain absolute certainty of supply and steadiness of voltage. The exciters would be driven by two smaller Pelton wheels of 300-horse power each.

"The current from the main generators and exciters would be controlled by a switchboard built in a special switchboard-gallery, the switches themselves being entirely enclosed in brick or concrete cells, and operated by insulated handles from the operating-board. The switchboard would be provided with the necessary panels for the final equipment of six 2,500-kilowatt generators and four outgoing feeders. It would be divided into two entirely separate portions by a coupling switch, and two independent sets of feeders would be run to Christchurch, one from each of these independent switchboards. With these provisions no single fault whatever in the plant or gear, even if in the most vulnerable parts, could interfere with the continuity of supply. From the switchboard the mains would be carried to the step-up transformers, which would raise the pressure from 2,500 to 45,000 volts for the transmission and thence to the outgoing-cable towers, suitable lightning arresters being interposed to protect the plant from damage from this cause. From the power-house the distance in a direct line to Christchurch is fifty-eight miles; but, following the roads by the most convenient routes to give the cheapest right of way, accessibility for construction and repair, and to tap the available distributing centres on the route, the distance is about seventy miles. Provision is made for two entirely separate transmission-circuits on separate pole lines, again in order to provide that no accident, however serious, could possibly interfere with the continuity of the supply. The transmission-line would be carried on 36 ft. poles spaced 2½ chains apart in level country, and up to 5 chains in hilly country according to the nature of the surface. As every insulator is a point of risk, the longer the spans within the limits permitted by the sag the less the danger of break-down. In modern practice the spans are made as long as the nature of the ground and the height of the poles will permit, on level ground from 150 ft. to 180 ft. with wooden poles, and in hilly country up to a quarter or half a mile between ridges, and with special poles. The insulators would consist of triple built-up earthenware, cemented together, and arranged in an equilateral triangle about 60 in. apart. Each pole, with cross-arm and insulators, erected complete, would cost about £5, the necessary shingle for concrete being available practically on the spot. This provides for a type of construction that will be ample for twenty years' service. By that time the development of ferro concrete construction will probably enable a much more permanent type of pole to be adopted. In the meanwhile, the accrued depreciation reserve will more than cover the cost of reconstruction.

"For the transmission line, considering the necessity of providing for future extensions, the total weight of copper required would be 143 tons for each circuit of three wires from the power-house to the substation in Christchurch. This size of wire would involve transmission losses ranging from 3 per cent. of 1,200 kilowatts up to 13 per cent. with a load of 5,000 kilowatts (6,600-horse power) on each of the two circuits—that is, at a delivered power of 13,200-horse power. The transformation losses in raising the pressure at the power-house and

stepping down again at the substation would be 4 per cent. additional at full load, making a total loss of 17 per cent. at a total load of 13,200-horse power; at a total load of 10,000-horse power the total loss would be 15 per cent.; and at 6,000-horse power 13 per cent. In working out fuller details a lighter line may prove sufficient, but the above is a safe estimate. A telephone circuit would be required following each transmission-line, with small exchange boards in the power-house and substations.

"The maintenance of the transmission will involve patrolling its whole length at frequent intervals; and for this purpose two linesmen's cottages would be required along each route, dividing it into suitable lengths for regular patrol service. Telephone instruments in each house connected with the telephone circuit would enable the linemen to be concentrated rapidly in the case of an emergency.

"The two transmission-lines should terminate in independent substations, one towards the northern and the other on the southern side of the city, in order to give a good lay-out of the distributing mains. These two substations would be cross-connected by a cable, again providing for continuity of service in case it is necessary to cut out either of the transmission-lines at any time. The main transmission-lines should not be brought farther into the city than is necessary to obtain good centres for distribution, and on this account the southern substation would be situated in Addington, near the Railway Workshops, and the northern one near the Exhibition Grounds. These substations would be provided with lightning-arresters, step-down transformers reducing the pressure from 40,000 volts to 6.600 for distribution in bulk, and switchboards controlling the various circuits. From the Addington substation distributors would be run to the Railway Workshops, the tramway power-house, the Sydenham, Cashmere Hills, and Heathcote pumping-stations, the factories and mills in Woolston, Addington, Islington, and Hornby, the Halswell and Redcliffs quarries and the Lyttelton Harbour. From the Exhibition substation distributors would be run to the City Council Electric-power Station, the Drainage Board pumping-station, the Belfast, Kaiapoi, and Rangiora mills and factories. Provision would be made in the distributors from the substations to supply each suburb or section of the city not already supplied by the City Council mains, and each town, village, group of houses, mill, or factory within fifteen miles of the substations that offers sufficient inducement.

"In addition to the two main substations, a number of transformer and distributing huts would be required for supplying current to smaller centres in which there is no authority to take the power in bulk, and in which the Government might have to undertake the retail distribution. The exact positions of these would be fixed as the demand arose, but I have allowed for twenty-five, with an average capacity of 100 kilowatts. The following would be the approximate length of main distributors:—

	Miles.
Christchurch to Rangiora *via* Belfast and Kaiapoi.....	20
Addington to Lyttelton.	8
Branches from main lines to Halswell, Islington, Hornby, and Lincoln.....	15
Branches from substations to various distributing centres.....	25
Total.....	68

In addition, low-tension 220-volt distributors would be necessary for retail distribution in smaller centres, requiring about forty miles circuit with meters and services.

"I attach complete estimates for these works, amounting to £291,500, exclusive of the purchase of any land or way-leaves that may be necessary, the construction of main roads, interest during construction, and preliminary departmental expenses. For four years hence—that is, for the first two years of operation—the load would be considerably less than the maximum of 13.300-horse power provided above, and one of the generating units might be omitted in the meanwhile, reducing the power-station capacity to 10,000-horse power and reducing the outlay by £17,000. Similarly, one of the two transmission-lines would have



ample capacity for the first few years of operation, and the £34,000 on the above outlay might thus be held over in the meanwhile. If it were decided at first to supply current only from the main distributors or the transformer-huts, leaving the local bodies or groups of consumers to make their own arrangements for distribution, a reduction of £25,000 would be effected in the capital outlay. The costs of the full development of 10,000 kilowatts or 13,300-horse power thus work out as follows:—

	Total.	Per Kilowatt.	Per Horse-power.
	£	£	£
Headworks	60,000	6	4.5
Power-house...	110,600	11.1	8.3
Transmission-line.....	44,300	4.4	3.4
Substations	18,800	1.9	1.4
High-tension distribution.	29,200	2.9	2.2
Low-tension distribution.	28,600	2.9	2.1
Total.....	£291,500	£29.2	£21.9

"Compared with the costs of other power plants of similar output, the cost of headworks is low, owing to the exceptionally favourable circumstances of Lake Coleridge for partial development. The other items show a fair margin above the cost of similar works in the older countries, which would more than cover the necessary allowance for higher freight and wages."

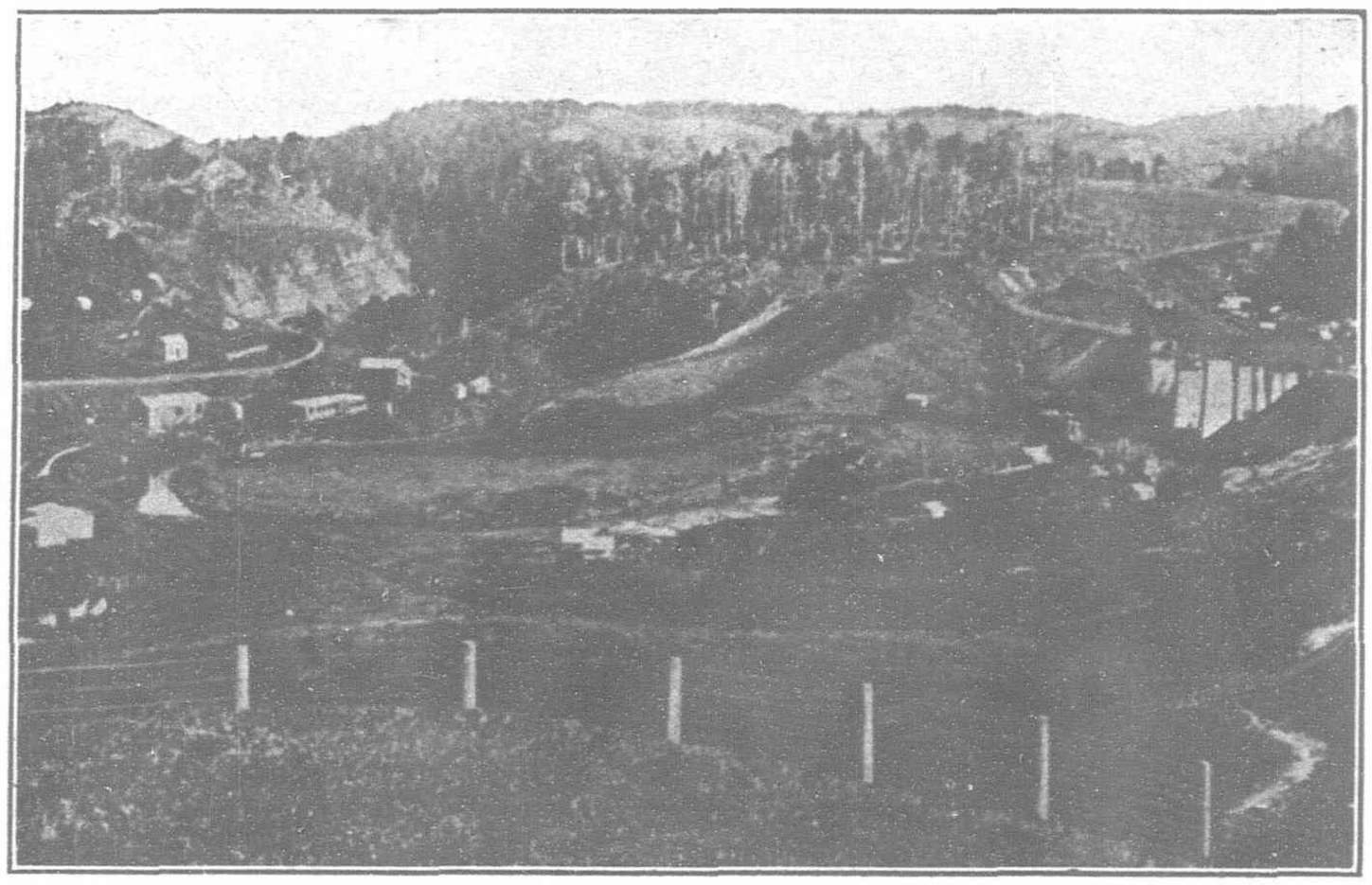
Engineer-in-chief Holmes increased the estimate to £421,000 on the Lake Coleridge scheme with a view to develop 15,000 horse power and later extend the project at minimum expense to from 25,000 to 30,000 horse power, practically endorsing Mr. Birk's report, and in conclusion gives the following valuable epitome:

"On the assumption that there will be a maximum demand of between 10,000 and 15.000 horse power, it is estimated that if a quantity of power amounting to a continuous demand of 5,000-horse power is sold, it could be produced at 0.244d. per horse-power hour, or 0.327d. per electrical unit; and if a quantity of 4,000-horse power only is sold, it will cost 0.305d. per horse-power hour, or 0.408d-per electrical unit; and if a quantity of 3 000.

horse power only is sold, it will cost 0.406d. per horse-power hour, or 0.545d. per electrical unit, which rates are much lower than power can be produced at by any other means at the present time.—"

Of the Hutt Project Engineer-in-Chief Holmes says:

"The generation of power from the Hutt River depends entirely upon the formation of an artificial lake or reservoir, by the construction of a high dam in the valley of the Hutt River below the confluence of the Pakuratahi River. Without this dam neither sufficient fall nor water can be obtained, as the low summer flow, together with the available fall, would only be sufficient to generate a few hundred horsepower. Fortunately, one of the finest sites in the Dominion for the construction of a dam exists exactly where required; and, although the dam would be



HORSE SHOE CURVE ON NORTH ISLAND MAIN TRUNK

170 ft. in height, the length of the bottom would only be some 60 ft. or 70 ft., and the width of the top not more than 400 ft., and by the adoption of the arched principle of dam-construction, as has been adopted in New South Wales and America, the cost of the dam can be reduced very materially, and likewise its safety increased when subjected to earthquake shocks, as the pressure of the water will tend to close, instead of open, any cracks which might be formed.

"The question of the silting up of the reservoir by detritus from the hills has been investigated; and, judging by the quantity of land which has made at the mouth of the Hutt River since the settlement of the district commenced, it will take many hundreds of years for the reservoir to be detrimentally affected. Silting can be very much decreased by the preservation of existing forests and the reafforestation of the denuded areas; so no alarm should be experienced on this account.

"Some records have been obtained from time to time of the flow of the water, and from these has been deduced that the quantity which will be available during three consecutive dry seasons is sufficient to generate a continuous load of 5,000-horse power delivered in Wellington, which, with the variation in the quantity required throughout the twenty-four hours, will allow a maximum demand of from 10,000 to 15,000 horse power, or perhaps 20,000-horse power for short periods. This has been deduced in a conservative manner, as our records are not yet sufficiently complete to enable a very close and accurate determination to be made at the present time.

"With the known fact that the average rainfall in any place can only be obtained by observations taken over a cycle of nineteen years, it is obvious that very considerable allowances have to be made when the observations only extend over three years, which is the case in the present instance.

"Fortunately, in this scheme the information to hand is sufficient to enable a very close estimate of the cost of the works to be made, as it has been possible to calculate the quantities in most instances, and from this information the following estimate has been derived:—

	£
Purchase of land for reservoir	18,000
Purchase of land in watershed to provide for reafforestation	10,000
Dam	125,500
Tramway from nearest railway-station to dam-site	12,000
Deviation of main road where affected by reservoir	10,000
Head-race	17,000
Pressure-pipe line	21,000
Power-station and equipment	133,500
Transmission-line	36,000
Telephone-lines	1,000
Contingencies	38,000
Total	£422,000

"The following is an estimate of the annual charges in connection with generation:—

	£
Interest at 4 per cent	16,880
Sinking-fund, 1 per cent	4,220
Maintenance	4,000
Depreciation	6,280
Running-costs	6,200
	£38,000

"In order not to complicate the report by the introduction of obscure technical terms, the estimate has been prepared on the assumption that the maximum demand will be 12,500-horse power; then, if a quantity of current amounting to 5,000-horse power for the whole of the twenty-four hours of each day of 365 per annum is sold, the cost per horse-power hour will be 0.208d., or 0.280d. per unit; if only 4,000-horse power is sold, the cost will be 0.260d. per horse-power hour, or 0.349d. per unit; if only 3,000 horse power can be sold, the cost will be 0.347d. per horse-power hour, or 0 465d. per unit.

"It is estimated that the Wellington City Corporation would be able to take, by the time the works are completed, at least one-third of the total quantity of power available. It is also estimated that the balance would be easily disposed of to industries along the route of the transmission-line, and also to industries at present being carried on in Wellington, to which current could be supplied at a very much cheaper rate than the City Council can supply with their present plant, or are in possession of a separate plant. It therefore appears that from a financial point of view the Hutt power scheme will be one of the most favorable in the Dominion.

"The height of dam required may seem excessive, and of too great a magnitude for practicable carrying-out; but a dam in an exactly similar situation is being constructed in America, of a height of 246 ft. exclusive of depth of foundations, to dam up the Shoshone River in Wyoming. The construction of the dam was commenced in 1908, and in about two years it had been nearly completed, so that the construction of the dam required in the Hutt cannot be considered in any way beyond the region of easy practicability."

The estimates submitted for the year to cover the initial work for the year 1911 amounted to £300,000.

RAILWAY ELECTRIFICATION.—With the development of hydro-electrical plants, the gradually electrification of railways will be included in the government program. The proposal submitted in 1908 for the use of electric power for the Christchurch Lyttleton Railway, which failed in approval as a result of a comparison of cost with steam power on the basis of a hydro plant designed for that purpose, will again be taken up as the Coleridge Lake scheme progresses, as also the construction of electric interurban lines.

PUBLIC BUILDINGS, ROADS AND BRIDGES.—The total expended in public building construction reached the sum of £335,114 and an estimate of £360,000 was submitted for 1911. This construction includes the new government house, parliament buildings and departmental buildings, offices for the post and telegraph, hospitals, schools charitable, institution, etc.

The expenditure for road and bridges construction for the year amounted to £381,904. The total road mileage maintained by the department was 3,843, of which 2 597 miles were dray roads and the balance bridle roads.

Roads on Goldfields is under a special head and the expenditure is charged to the encouragement of the gold mining industry in that section. The total expenditure in this direction for 1910 was £40,830 and £50,000 was asked for 1911.

The total expenditure for construction and maintenance of all roads and bridges for 1910 amounted to £599,093 and the estimates call for £712,035 for 1911.

TELEGRAPH-EXTENSION.—During the year £123,422 were expended on telegraph and telephone extensions. The mileage of extensions and trunk circuits was 497 miles of line and 2,134 miles of wire, and telephones, 103 miles of line and 5 037 miles of wire with 121 new offices and 17 telephone exchanges.

WIRELESS.—Tenders for two high power wireless stations in the neighborhood of Doubtless Bay and Bluff and three medium power stations near Gisborne, Cape Farewell and Summer were invited and expected opened last month. The high power stations are to have a radius of 1,250 nautical miles so as to communicate with Sydney and Fiji, while the medium power stations will have a radius of 500 miles. Proposals from the United Kingdom and America were received. It is expected that the installations will be completed by the end of 1911. The vote submitted amounted to £140.000.

LIGHTHOUSES, HARBOR-WORKS, AND HARBOR DEFENCES. "The lighthouse works undertaken during the year were: The completion of the first-order light at Cape Brett, and the necessary outbuildings and dwellings for the keepers; the erection of the new acetylene-gas light at Tuahine Point, near Gisborne; the erection of the new Pintsch-gas light on Jackson's Head, to replace the Wigham oil-light; and the connection of Cape Brett and Cape Palliser Lighthouses with the telegraph system.

"The fog-signal for Timaru, for the purchase of which a sum of money was voted, has arrived in the Dominion, and will be erected at an early date.

"The total expenditure on this vote for the year was £6,763.

"During the current year the new works to be provided for are: The erection of two lights on the East Coast of the North Island,

Commercial Commissioners from Central West to Visit Orient

The recent visit of the Commercial Commissioners from the Pacific slope to China is soon to be followed by that of a body of representatives of the Chicago Association of Commerce and of the commercial associations and chambers of the Central West to the Philippines by way of Honolulu. The editor of the FAR EASTERN REVIEW is in receipt of a letter from Mr. J. Newton Nind, the veteran American trade journalist and dean of the profession in the Central West, to the effect that the preliminaries have been arranged, and through the courtesy of President Hill, of the Great Northern Railway, the S. S. Minnesota has been placed at the disposal of the party. The Minnesota will proceed from Seattle to Honolulu and then to the Philippines, calling at Japan on the return trip, if present plans are not revised. It is not improbable, however, but that other points in the Far East will extend hospitality to these visitors who represent the commercial potentiality of the great Central West.

The party will be headed by Mr. Homer A. Stillwell, President of the Chicago Association of Commerce, and the head of Messrs. Butler Bros., one of the most progressive wholesale drygoods house in the United States, and will start from Chicago in March next.

The decision of the Chicago Association of Commerce is the result of the interest in Far Eastern trade aroused by the personal effort of Mr. Nind, who was a member of the Seattle party that toured the Orient in 1909. He was especially sanguine with regard to the development of Manila as an American distributing center for the Orient and pledged himself at a dinner given by the Merchants' Association of Manila to do all in his power to interest the leading businessmen of Chicago in this project. The development of the large and effective distributing center for the middle west that Chicago has become, impressed him that the businessmen of that city would have a greater appreciation of the value of a distributing



Reproduced from *The Saturday Evening Post*

MR. HOMER A. STILLWELL,
PRESIDENT OF THE CHICAGO ASSOCIATION OF COMMERCE WHO WILL HEAD A COMMERCIAL COMMISSION ON VISIT TO ORIENT

center at Manila than those of any other section and he believed that the response would be prompt. That he has succeeded beyond expectations is evidenced by the following extracts from his letter:

"The present plan is for the Chicago Association of Commerce, which is the most representative body of the kind in the country, to gather together representative members of like bodies from the Central West and make a trip to the Orient. Mr. J. J. Hill has given orders to do the thing 'regardless' and the Minnesota will be placed at the disposal of the Association making the trip direct to Honolulu and then to the Philippines returning by way of Japan. The only unfortunate thing about this plan is that the departure from here can not be made before March 17, which will bring the party to Manila in April which Mr. Lawrence tells me is not a good time..... Mr. Homer A. Stillwell, now the President of the Association of Commerce, and who is head of Butler Bros., will head the party. That much has been determined. When I was in Manila, I said to you that I hoped he of all other men might go on this trip which I had in mind, for Butler Bros. are the logical merchants to put in a house in Manila. They are progressive beyond the other big dry goods houses, and do a more general business. Mr. Stillwell's commitment to the project is therefore most important."

The Chicago Association of Commerce may be said to have made Chicago the greatest manufacturing and distributing center in the Central West through an effective system of co-operation for the general good involving every commercial interest in the city. Its creed is "All for one—one for all." Some idea may be gathered of its splendid public service and its methods of building up the commercial and civil interests of Chicago in the following excerpts from an article under the caption "The Pride of the Cities" from the pen of Isaac Y. Mercoson, published in the Saturday Evening Post.

"As a general rule, cooperation for civic and industrial betterment is easier and more compact in a small city than in a very large one. The greater the community the less likely are you to find a spirit of close cooperation for the public good, especially where there are strong competitive interests. Yet you have only to turn to Chicago to find, in the work of its Association of Commerce, an example of the beneficent practice of the 'All for one—one for all' creed. Here, in our second largest city, is an organization of four thousand men recruited from every activity, and including rectors and rabbis, that has worked out a scheme of city reconstruction that may be followed with credit and profit by any town, large or small.

"For years the average Chicago citizen, and especially the merchant, believed in the 'every-man-for-himself' theory. [As was the case in other large centers, the moneyed men gave freely of their means to public movements, but little of their time. 'The city is growing fast enough,' they said. They got together for the World's Columbian Exposition and the shortsighted ones believed that the city had received enough publicity to last for all time; but the men who looked ahead realized that, with publicity for a city, as with any definite business movement, you must keep everlastingly at it to make it permanent and successful. A few men, headed by the late Alfred M. Compton, felt the need of a non-partisan force to develop the city in a big way; and through their efforts, and by the welding of some smaller wholesale, jobbing and shipping organizations, the Association of Commerce was formed.

"You can take any one of the many significant activities of the association and find beneath it clear-headed business organization. There is no better way to begin, perhaps, than with the difficult problem of getting membership, which is the first step in any work of this kind. Instead of making sentimental appeals the body sold memberships just as its merchant members sold their goods. 'You may not get financial profit out of this at once,' they said, 'but your business will grow as a result of the work of this association, because the city will be cleaner and better governed and better advertised.' Among other things a great dinner for twenty-five hundred people was given at the Coliseum to boom membership. The speeches were so arranged as to create the four motions necessary to successful salesmanship—that is, approach, interest, desire and resolve. Within ninety days over eight hundred members had been added.

"At this dinner occurred an incident that showed the mettle of the men behind the association. Just before the meal was to be served the waiters went on a strike, demanding double pay and threatening to quit if their demands were not met. It was a critical situation: outside were more than two thousand guests waiting for food; and, in addition, all was in readiness to launch a movement that meant much to the future of the organization. The executive committee had a hurried meeting in the cloakroom.

"These demands are intolerable!" it said. "Let's call the police, throw the waiters out and serve the supper ourselves."

"In five minutes the place had been cleared of striking waiters—and millionaire bankers, merchant princes, eminent judges and leading persons generally were handing about chicken and soup. They saved the night; and thus Chicago got its first real impression of a mighty spirit of cooperation that has met civic problem just as it faced that waiters' strike.

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the protection from land slips of the track leading to Godley Head fog-signal, and the connection of another lighthouse with the telegraph system. Since the Tuahine Point Lighthouse was erected heavy land-slips have occurred at the site, rendering the immediate removal of the light necessary. It has been decided to re-erect it on a safer and more suitable point near the old site.

"For the works mentioned above a sum of £10,167 will be required, and provision for a vote of £5,000 on account is made on the estimates.

"Under the heading of "Harbor-works," last year's expenditure amounted to £4.548, the principal items being: Wharves at Elmslie Bay, Horseshoe Bay, and Half-moon Bay, Okuru Wharf and River improvements, Waipu River improvements, Havelock Harbor improvements, snagging the Waitotara and Patea Rivers, removal of rocks from Kaipara and Kaikoura Harbors and Hollyford River, and acquisition of Tata Islands as a harbor of refuge.

"For the current year, in addition to renewing the unexpended items on last year's appropriations, it is proposed to provide for the following: Wharves at Motukaraka (Hokianga), Kirikopuni (Kaipara), Waiuku, and Lemon Point (Kawhia), Waipu and Karamea River improvements, the erection of a meteorological observing-station at Wellington, alterations to the ponds at the Portobello Fish-hatchery, and improvements in the harbor at Collingwood. The sum of £11,718 will be required for these works, the vote proposed for the current year being £7,000.

The expenditure on harbor defences amounted to £5,372, and, as further important works are in hand or contemplated, a larger vote will be necessary for the current year. Provision has accordingly been made for an appropriation of £8,000."

In concluding his report the Minister of Public Works says:

"The practical initiation of our hydro-electrical-energy policy will, I am sure, act as a great stimulus to industrial development of all kinds, and lead to the starting of numerous new enterprises. Trade is rapidly improving, the public revenue is increasing and with the amounts for public-works services that are provided, the fullest possible employment should be available for our people in the development of the country, and I therefore look forward to a year of considerable activity and progress."

The total amount of proposed appropriations for the Public Works Department for 1911 amounted to £3,105,935 as against £2,624,480 voted and £2,218,975 actually spent in 1910.

"Early in its life the association saw that if it was to build industrially it must likewise build civically; so both of these branches were grouped under the control of one division. There could be no progress, however, without proper cooperation from the city authorities. Here was encountered one of the great obstacles to any city's advance, because so often men are elevated to high municipal power who have no sympathy or interest in real commercial development. But what has happened?

"The story of the spur-track reform will answer. For many years in Chicago, as elsewhere it took much time and money for a manufacturer to obtain a railroad spur to his plant. It made no difference if this delay retarded the applicant's business and thereby checked the progress of the whole community. The granting of the track ordinance depended upon the sweet will and often the cupidity of the alderman in the district where the spur was wanted. Sometimes a whole year elapsed before any definite action was taken. The same thing happened when a factory wanted to have a useless alley vacated—that is, closed so as to permit the extension of a plant. This kind of procedure drove industries from the city.

"The civic and industrial committee of the Association of Commerce took the matter up with the mayor and his cabinet. It said: 'Time in business is worth money. If factories want spurs there should be no delay in considering the cases. If their demands are unfair we will be just as willing as you are to turn them down. But there must be no delay.' As a result, there has been organized an aldermanic committee on local industries, to which all switch ordinances are referred. When a member of the association wants a spur the committee asks for a public hearing on it. Instead of waiting a year he gets action in two weeks. The same course is open to any man in Chicago, for the association works for the general good. Thus the way has been cleared of obstacles that have beset the path of bestowing ordinances through the city council.

"This work has established friendly relations between the railroads and the city and has helped to put an end to the lobbying that was always the prelude to the granting of favors by the city to the various transportation lines. Equally important was the community of interest created between the association and the city government.

"But the civic and industrial committee had only started its campaign. Since the committee on local industries must pass on the eligibility of tracks and site extensions, it reasoned, 'Why not give these aldermen a real look at Chicago and her industries?' There began a series of what are known as industrial excursions. The hosts are the association and the railroads and steamship lines, and the guests are the aldermen and city officials. One of these trips was by boat through the Sanitary Canal district to study the industrial opportunities there; a second was to Argo; a third to the steel plants at South Chicago. A two-fold purpose was served by the excursions: the city officials not only became well acquainted with the representative business men of the community and found out their needs, but also, as one alderman expressed it, 'really saw Chicago and her possibilities for the first time.' The net result is that today, instead of mutual suspicion between big business and city government, as is so often the case, there is frank and friendly feeling and—what is more to the point—cooperation.

"One more episode will show how the association works civically. Chicago levies a wheel tax on vehicles which nets the city about seven hundred and fifty thousand dollars a year. This money is devoted to street improvement. Now, though the sum is not large, there was much significance in its unequal distribution. The association found that, where one ward paid in twenty-six thousand dollars taxes and only received six thousand dollars for its streets, another ward that only contributed six thousand dollars got forty thousand dollars. The matter was brought before the mayor and council, with the result that the wards now get their pro rata of wheel money on the basis of their contributions. This incident showed the city administration that the association was keeping an eagle eye on the conduct of affairs and this scrutiny has made for efficiency and economy in every public department

"Now turn to the work of industrial expansion. One of the association's jobs is to get new factories. To expedite this it has an industrial commissioner who keeps tab not only on Chicago's growth, but on the development of every city. He gets industrial clippings from everywhere. If he reads that John Jones, in Oshkosh, has had a fire, or is looking for a larger site, he at once writes to him, stating the advantages of Chicago. This rule underlies all the association campaign work: 'Dwell on your own advantages; never knock the disadvantages of your neighbors.' If the out-of-town merchant or manufacturer is interested the industrial commissioner will go to see him. If he wants a site the association will send him the names of every one of its members in the real estate business.

"'More spectacular than this are the trade embassies that sally forth to distant points bearing the banner of the association. They are crusades of acquaintance, and they have been to Seattle, New Orleans, Oklahoma and many other places. Likewise there are many trade-extension trips to points nearer home.

"One specific excursion will show a picturesque method of advertising a city. The association hired one of the biggest boats to be had on Lake Michigan, and spent two weeks on the water, visiting thirty towns. Instead of accepting entertainment from the places visited, as is usually the case, the association did the entertaining. A week ahead it sent three thousand tickets to every town for distribution among its business men and citizens generally. When the boat tied up at the wharf the decks were cleared for entertainment and the populace streamed aboard. Nobody solicited trade, but everybody talked Chicago.

"In the main saloon of the boat was a moving-picture show which presented sights and scenes in the big city; but instead of the grime of Packingtown there were views of Drexel Boulevard, with its gay equipages; Lincoln Park and its statues; snapshots of the university and crowds on State Street going into the big stores. A lecturer from the University of Chicago told of the artistic and esthetic advantages of the city. All this was to show that Chicago was a good place to live in, to work in and to buy in.

"On its trips the association gets out a daily newspaper. On trains it is mimeographed. On this trip the boat used a press on which was printed the Daily Log. It had the news of the day—live, hot matter about Chicago and the itinerary. These papers were generally distributed and provided what might be called a portable publicity. The association believes in trade missionary work in its own state. It sends a trainload of members to the state fair at Springfield or to a reunion at Elgin. Its speakers then do not talk of Chicago, but talk Springfield and Elgin. 'Your interests are ours,' they say.

"Two distinct innovations in trade missionary work have been planned by the association. One is a series of trolley specials through the interurban territory. The plan is to establish headquarters at a place like Peoria and take trips on the electric cars each day to a different territory. More ambitious than this is a series of automobile trips planned through such states as Iowa and Nebraska. Here the trade extensionists can stop and visit in the smallest towns and hamlets, and gather in the trade neglected on the big special train excursions.

"There is still another kind of business expansion work. It grew out of the complaint to the association that the Chicago retail merchants were not buying enough homemade goods. 'Why go elsewhere when you can buy at home?' contended the manufacturers.

"We will help you," replied the association, 'by the establishment of a market week, which will be a carnival of Chicago-made goods.' The third week in August, which is ordinarily the dullest of the season, was selected for the time. The retail merchants, at the request of the association, tendered the use of their windows for an exposition of Chicago goods. Reduced rates were obtained on the railroads. The result was that what had been the dullest week of the season became the most active—save for the holiday season; the local stores got the home-patronage-of-home-products habits and benefit was brought to the whole business community. The market week will be an annual feature hereafter.

"All this trade building and general business getting would go for naught if there were no adequate traffic facilities. Though Chicago had a remarkable strategic position as to railroads there were some defects. The most serious was the lack of a through freight package service to small towns, especially in the South. On account of long delays in shipments Chicago houses lost some of their Southern trade. Something had to be done and the Association of Commerce did it through its traffic bureau.

"Here was the old system: A merchant, let us say, in Wilson, North Carolina, bought a small bill from a Chicago drummer. When asked how he wanted it shipped he said, 'Atlantic Coast Line,' because it ran into his town. But the Atlantic Coast Line was not the initial line—that is, the line on which the package started on its journey. The shipper in Chicago, therefore, would ship it by the road nearest to his warehouse or factory. What happened? Suppose it started on the Moon route, over which it would go to Louisville. Then it would be transferred to the Southern Railway and proceed to Salisbury, North Carolina. Here there would be a change to Richmond, Virginia, where it would get into an Atlantic Coast Line car and be hauled to Wilson. There were five transfers and it took nine days from Chicago—often longer. So frequent were the delays it became the custom to start a tracer the moment the goods got under way. The loss of time was costly to the consignee. Besides, there was the liability to loss from theft and damage from much handling in the many changes in the freight yards. Everybody cursed the railroads and complaints rained in from all sides.

"It happened that there was a man in the traffic bureau of the Association of Commerce who had made a specialty of dissecting tonnage and who worked out a plan for the establishment of direct car service on all lines out of Chicago that would solve the package problem. The key was in starting the stuff by the initial line that would not only carry it the farthest but make the quickest and closest connections and with the fewest transfers. It meant the putting on of direct cars to certain central points. He laid the plan before the bureau; it was approved, and with the assistance of the railroads he established a through package service that has wrought wonders for the Chicago shipper. A book called The Way to Ship has been prepared which tells the Chicago shipper exactly how to route a package to any remote point and get it there in half or even one-third the time that it took before.

"Let us take the case of the Wilson, North Carolina, merchant that I used as an example. Suppose a package is to go to him now. The merchant goes to his Way to Ship book, looks up Wilson, North Carolina, and finds this explanation: 'Ship Baltimore & Ohio, care Atlantic Coast Line. Car due fourth day.' This means that, instead of sending it by the roundabout way that I have described, the package starts on the Baltimore & Ohio, goes direct to Richmond and, with only one transfer, is put aboard an Atlantic Coast Line car, and gets to Wilson the fourth morning after it is shipped, or in less than half the time.

"The introduction of this service, for one thing, has caused a decrease of eighty per cent in the number of tracers sent out after package shipments. It enables the railroads to have more cars at their service and thus do more business; it puts the shipper in closer touch with his customer and he can handle consignments on short order and with profit, especially with goods rushed to meet sudden changes in temperature. Likewise it reduces the risk of loss from pilferage and damage in transfer. It is one more general benefit that the association has brought about.

"Very soon the association realized that, to advertise and enrich Chicago, an organized effort must be made to get conventions. A convention bureau was established which has reduced the business to a real science. It wastes neither money nor energy. For a long time it was the practice of cities to distribute badges and lapel buttons. 'Why not give something practical?' said Chicago—and her bureau gives away leadpencils, with the inscriptions: 'Mark it down and then come to Chicago.'

"How is the bureau to know where and what the conventions are? In the answer to this question is a revelation of the remarkable extent to which this kind of organization has gone. You can go to the convention bureau of the Chicago Association of Commerce and find a complete file of the name, strength, organization, method of selecting meeting place, and, what is more important than anything else, the spending capacity of every kind of organization that meets in the United States. It may surprise you to know that there are exactly four thousand such organizations. Some only meet every four years. Numbers do not always count. For example, the bureau estimates that, though the average religious convention averages a daily expenditure of a dollar and seventy-five cents a person, the usual daily spending capacity for a visitor during a Shriners' meeting is twelve dollars and seventy-five cents. On the spending capacity depends the degree of work expended to get the meeting. You get some idea of the value of some conventions when you discover that the Knights Templar alone left nine million dollars this year.

"Formerly a city was satisfied when it got one convention of a certain kind at a time, but the Chicago bureau has a plan that rounds up all the affiliated interests. For instance, i secured the national dairy show this year. Having obtained this, it set out to get the annual conventions of the butter makers, the cattle breeders—in fact, all lines associated with dairying. The result was that it made the dairy-show bigger and better and at the same time brought ten times more people to the city than would have come if there had been nothing more than a mere dairy-show. The net result of the work of this bureau is that already there have been three hundred and fifty conventions in Chicago this year, which brought in nearly half a million strangers who spent nearly twelve million dollars.

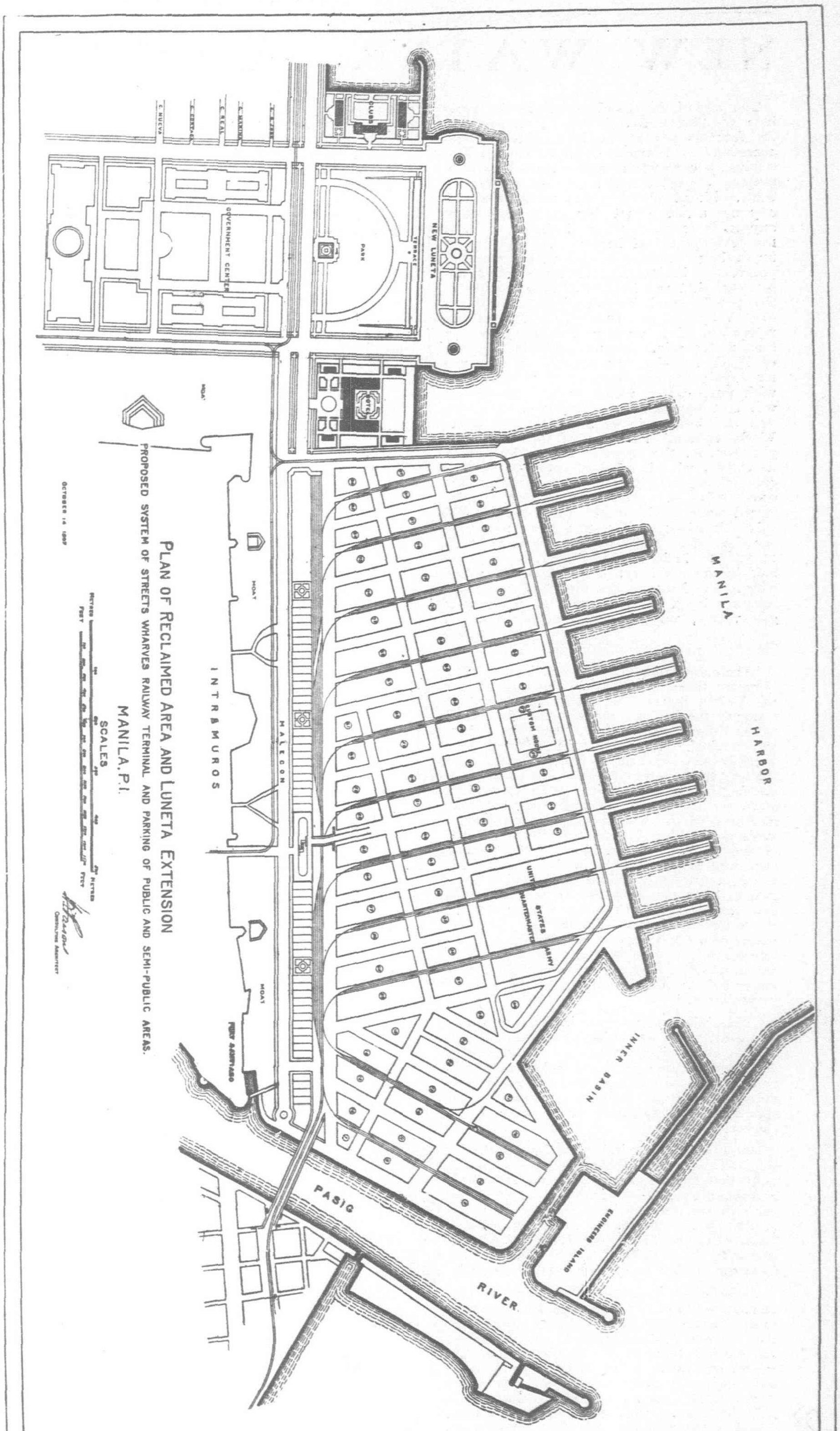
"Somewhat different is the work of the association in having the saloon license raised from five hundred to one thousand dollars. Within a year this reduced the number of saloons from eighty hundred and ninety-seven to seventy-one hundred and fifty-two. The increased revenue which came to the city has been devoted, at the suggestion of the association, to adding a thousand patrolmen to the police force and to the erection of new police stations.

"This leads to the very interesting and helpful connection between the Association of Commerce and the police force. When the association got well under way there was no traffic squad and no organized police supervision of the streets. The street traffic committee of the association took the matter in hand, sent a police captain to Europe at its expense to study traffic rules, and secured, on his return, the introduction of a code of tr ffic rules governing the principal streets and the organizations of a traffic squad.

"I could cite many more constructive tasks performed by this association, but I have saved, practically for the last, the one that in a larger sense seems more far-reaching than all the rest. It is the significance of the excursions given each year for the sons of members. The beginning was interesting. One day some of the officers were talking about the future of the association and one of them said: 'Who will take it up? We have grown into our tasks, but we will not be here always. Let us train our sons while they are young in the big lesson of organization and for civic and industrial leadership.'

"'How can we do it?' asked some one.

"'By showing them how our industries are organized and operated and how this association is carried on,' came the answer. Thus began the excursions.



NEW WATER SUPPLY FOR CEBU

The city of Cebu, and capital in the province of that name, is rapidly forging to the front as one of the leading commercial centers of the islands. Centrally located with steamship connections and a modern railway tapping the more important agricultural districts, with splendid port accommodations, this city has a future not less promising than any trade center in the Philippines. But the development of her trade, while engaging a large measure of the attention of her progressive businessmen, has not been so absorbing that the health and happiness of the people are being neglected. This is evidenced by the extensive plans for the development of a modern city along sanitary lines under way. Among the latest projects to which the city is pledged is a new water supply system designed to provide Cebu with pure water which, when completed, will cost approximately ₱500,000. The system will be known as the "Osmeña Water Works System" in honor of the Hon. Sergio Osmeña, the speaker of the Philippine Assembly, who is a native son of Cebú. The contract covering the project includes the construction of a circular dam built of reinforced concrete with intake appurtenances and valve chamber; a concrete spillway; the excavation of a 4,000,000 gallon reservoir; a 14 and 16 inch main pipe line, six and one-half kilometers long; a distribution system with four to fourteen inch pipe, twenty-one kilometers long, together with the necessary gate valves, valve boxes, fire hydrants, etc. Bids were advertised for on August 5 and opened November 15, 1910.

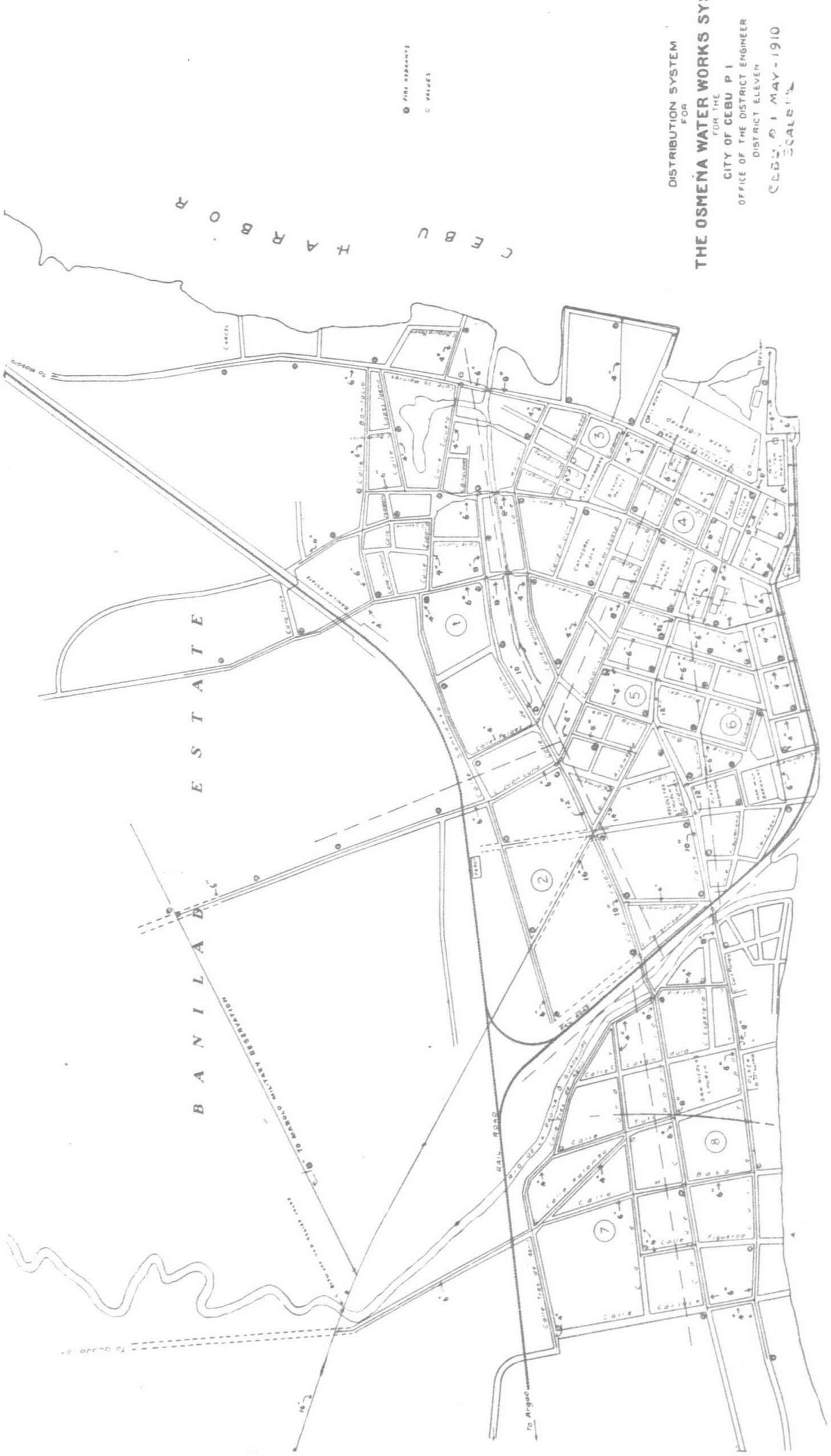
The proposals were divided into the following items which were subject to separate tenders covering the whole or part as follows:

(a) The construction of a reinforced concrete dam with gate house, and concrete spillway dam with concrete side walls and apron.

(b) The construction of a distributing reservoir with gate house and other necessary appurtenances.

(c) The construction of a distribution system and main pipe line with all appurtenances.

(d) The furnishing and delivering of cast iron water pipe and specials, gate valves, air valves, fire hydrants, reinforcing steel, and other metal.



"There are half a dozen trips each year. The boys are taken in a body to institutions like the United States Steel Corporation plant at Gary; to the Pullman works; to Packinton and to the Edison electric plant. The trip to Gary was typical. More than six hundred sons went on the big steamer United States. On the way to the steel city there was an open-air meeting on the upper deck, where there were addresses in simple language by prominent members of the association on such helpful subjects as 'thrift' and 'organization.' Mr. Homer A. Stillwell, president of the association, who happened to be in New Haven, sent a telegram which contained the following paragraph that seems to convey fittingly the spirit and usefulness of these excursions: 'Study the lesson of this day and this visit, thus preparing yourself to accept the larger responsibilities time is sure to bring to you. From among your number will be selected the future officers of the Association of Commerce—even its presidents.'

"Thus, wherever you turn in the swift drama of a great city's activities you find the impress of this association. It may be in the shape of a check on the pollution of the water supply, or an organized effort to restore the lost lake-shipping prestige through river-and-harbor agitation, or a censorship on solicitations for charity."

Manila is fortunate in having the opportunity to entertain representatives of a commercial body that has accomplished so much not only in building up Chicago's trade, but in advancing her civic interests and instilling into the minds of the younger generation the great responsibilities that will be soon their portion, thus preparing the children of today to follow in the footsteps of their progressive, patriotic fathers.

We believe it is not yet too late for the commercial bodies of the different ports to arrange to receive these gentlemen and at this time when the different nationalities in the Far East are looking towards greater cooperation and the abandonment of the "Every Man for Himself" creed, the men who have for their motto "All for one—one for all" and have made it a real live slogan with comprehensive results, would be the right kind of "folk" for members of local commercial bodies in the Orient to rub elbows with

The tenders received follow:

BIDS OPENED.—Bureau of Public Works.—Cebu Waterworks.—J. E. Ainsworth bid on A. B. C. as follows: A, construction of dam and spillway, ₱148,060. B, construction of reservoir, ₱63,850; and C, construction of distributing system, ₱99,651, or a total of ₱311,561.

The Manila Construction Company bid as follows: A. ₱142.650, B. ₱76,450, C. ₱106,095 or a total of ₱325,195.

Coleman & Goodman: A. ₱133,010, B. ₱78,150, C. ₱108,142, or a total of ₱318,302. Their offer called for an award on all three or none.

The Atlantic Gulf & Pacific Co. bid on A. B. C. and D., the last named representing the delivery and purchase of the material for the distributing system and main pipe line. They bid on A. ₱144,385. B. ₱73,457.50, C. ₱90,247.90, or a total of ₱308,090.40, on D, they bid ₱155,537.50, which makes a grand total on the work and supplies of ₱463,627.90. The A. G. & P. Co. bid on A. B. C. and D, collectively, and on A. B. C. separately. They specified that they would accept D. separately with a 5% increase.

Robert M. Loper bid A. ₱121,380, B. ₱82,410, C. ₱111,372, or a total of ₱315,162, D. ₱170,-058 14 or a grand total of ₱486,058.14. Mr. Loper's bid called for A. B. C. collectively or none.

A. Moll & Co. bid on supplying materials only. Their bid was for D. ₱159,866.11, duty paid. The "duty paid" is not clear, but it is presumed to mean that they will pay the duty on the goods that they submit.

Messrs. Peabody & Co. bid on D. only, ₱154,-427.36 for English material and ₱155,805.25 for American. The English bid omitted 96 post fire hydrants. They also specified that should the work be awarded to the Manila Construction Company they would reduce the price ₱1.75 per ton on both bids.

Messrs. Findlay & Co., bidding for Robert McClarien & Co., bid ₱157,481.86 on D. providing all pipe and specials could be delivered in one lot instead of two.

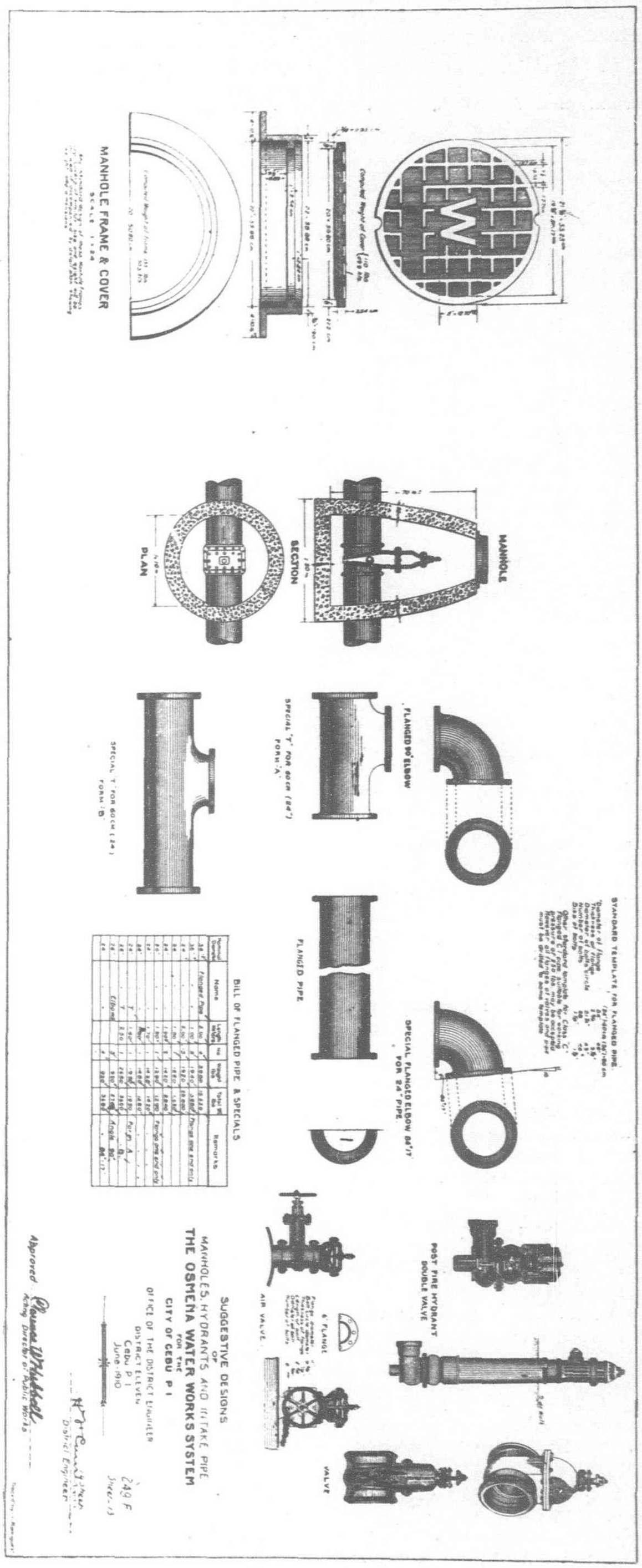
The contract was awarded The Atlantic, Gulf and Pacific Company of Manila for the entire construction. Preliminary operations are already under way and the contract calls for the completion of contracts "A" and "B" by May 1, 1911. Half the material required under contract "D" is to be delivered before March 15, 1911, and the balance by May 1, 1911. Work on Contract "C" will begin April 1, 1911, and the whole is expected completed, November 1, 1911, when the system will be put in operation.

The plans and specifications were prepared by Mr. H. F. Cameron, District Engineer of the Bureau of Public Works, Cebu, and approved by Mr. Clarence W. Hubbell, then acting Director of Public Works. The construction is under the supervision of Mr. Warwicke Greene, Director of the Philippine Bureau of Public Works, on behalf of the Municipality of Cebu. The expenditure is provided for by an issue of municipal bonds by Cebu, authorized by the Insular Government to the amount of ₱250,000; a loan from the insular government to Cebu and local appropriations covering the balance.

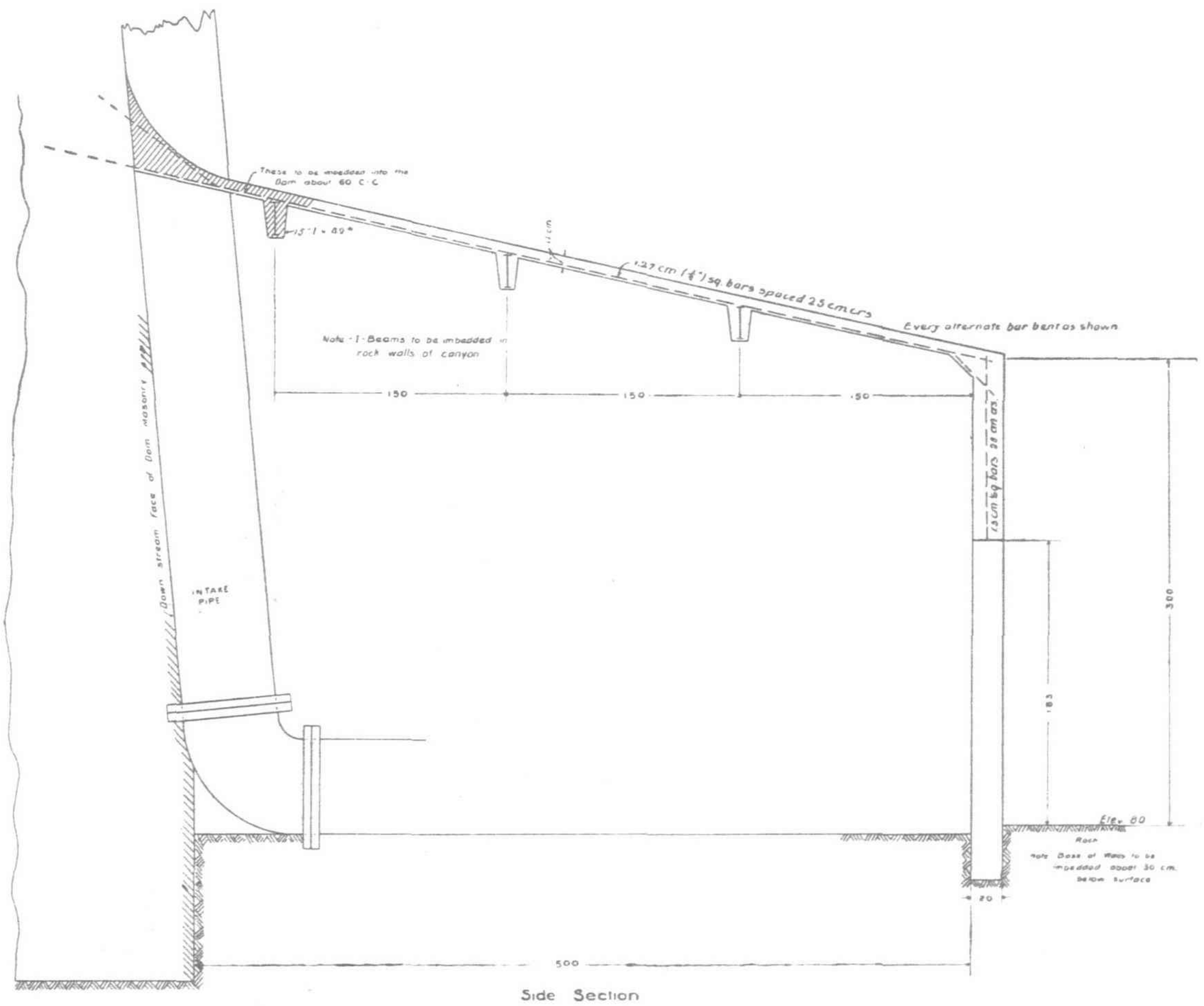
The following is an estimate of approximate quantities submitted by the engineer for information of the firms bidding covering work and material:

Contract "A"

Item 1. Rock excavation, class "A".....	400	cubic meters
Item 2. Rock excavation, class "B".....	100	,, ,,
Item 3. Portland cement concrete (1:2:4).....	2420	,, ,,
Item 4. Portland cement concrete (1:2-1/2+5)	60	,, ,,
Item 5. Portland cement concrete (1:3:6).....	60	,, ,,
Item 6. Purchase and delivery steel, etc.....	70	metric tons



Item 7. Purchase and delivery flange pipe and specials..... 32 metric tons.
Item 8. Purchase and delivery of 24″ flanged gate valves..... 3 ,, ,,
Item 9. Purchase and delivery of 36″ flanged gate valves..... 1 ,, ,,



Side Section
INTAKE PIPE, CEBU WATER WORKS

Item 10. Installation of appurtenances..... 125 metric tons.
Item 11. Extra work, cost plus 15%.

Contract "B"

Item 12. Coral rock excavation..... 3000 cubic meters.
Item 13. Earth excavation (guiso)..... 13250 ,, ,,
Item 14. Cement mortar plaster coat (1:1)..... 4000 square ,,
Item 15. Portland cement concrete (1:2-1/2:5)..... 500 cubic meters.
Item 16. Installation of appurtenances..... 40 metric tons.
Item 17. Extra work, cost plus 15%.

Contract "C"

Item 18. Excavating, backfill, etc..... 13200 cubic meters.
Item 19. Portland cement concrete (1:2-1/2:5)..... 125 ,, ,,
Item 20. Laying 4″ C. I. pipe and specials, hub and spigot..... 8400 lin. meters.
Item 21. Laying 6″ C. I. pipe and specials, hub and spigot..... 7620 ,, ,,
Item 22. Laying 8″ C. I. pipe and specials, hub and spigot..... 2880 lin. meters.
Item 23. Laying 10″ C. I. pipe and specials, hub and spigot..... 840 ,, ,,
Item 24. Laying 12″ C. I. pipe and specials, hub and spigot..... 750 ,, ,,
Item 25. Laying 14″ C. I. pipe and specials, hub and spigot..... 2450 ,, ,,
Item 26. Laying 16″ C. I. pipe and specials, hub and spigot..... 4200 ,, ,,
Item 27. Installation of post fire-hydrants..... 96 ,, ,,
Item 28. Extra work, cost plus 15%.

Contract "D"

Item 29. Purchase and delivery cast iron pipe..... 2070 metric tons.
Item 30. Purchase and delivery cast iron specials.. 50 " "
Item 31. Purchase and delivery of 4″ gate valves... 16 " "
Item 32. Purchase and delivery of 6″ gate valves... 16 " "
Item 33. Purchase and delivery of 8″ gate valves... 9 " "
Item 34. Purchase and delivery of 10″ gate valves. 3 " "
Item 35. Purchase and delivery of 12″ gate valves. 5 " "
Item 36. Purchase and delivery of 14″ gate valves. 5 " "
Item 37. Purchase and delivery of 16″ gate valves. 3 " "
Item 38. Purchase and delivery of 6″ air valves complete..... 7 metric tons.
Item 39. Purchase and delivery of post fire-hydrants..... 96 " "
Item 40. Purchase and delivery of manhole frame and covers..... 60 " "

Dam and Spillway.—Some idea of the character of the work may be gathered from the specifications involved.

The dam is to be built across the Labangon River about seven kilometers southwest of the City of Cebu, Cebu Province. It is to be of reinforced Portland cement concrete with the ends and base in solid rock. The total quantity of rock to be excavated in preparing the foundations for the dam will depend upon the character of the rock and the number of seams and their defect, which cannot be determined in advance. The quantity of concrete to be used in construction of dam will also vary from that estimated for the same reason. The rock in question is a mineralized porphyry and has every appearance of being free from seams, and the average excavation estimated necessary for ends and base of dam is two meters into this foundation. The dam is to be of the arch type with varying radii ranging from 20 meters at the base to 35 meters at the top. A small gate house forms part of the dam on the down stream side.

The spillway design includes a small Portland Cement concrete gravity dam anchored by bolts into the rock, cement concrete side walls, and a run off on solid rock capped in places by a thin concrete apron. The quantities given for rock excavation and concrete will vary.

The rock to be excavated is largely a mineralized porphyry (andesite flow) and is compact but not extremely hard. Regulations covering excavation in solid rock require that the contractor shall blast the rock with explosives of such power and quantity so placed that they will not crack the rock upon or against which the masonry may be built, and otherwise, by wedging and barring.

Concrete.—All cement used will be of the best grade of imported hydraulic Portland, and shall conform in all respects to the following specifications:

"It shall be of a brand satisfactory to the engineer; packed in strong, well-made barrels, lined with paper, and containing not less than 375 pounds net to each barrel. At least 90% shall pass through a sieve of 100 meshes por lineal inch. Otherwise it shall conform in all respects to the requirements of the United States Army Engineers' specifications for cement. The contractor shall at all times keep in store at the site of the work sufficient quantity of cement to allow time for a 28-day test to be made without delay to the work of construction. Cement shall be stored in a tight building having a dry floor, and shall be so stored as to allow of easy access, inspection, and identification by the engineer. On request of the contractor, cements will be tested in the City of Manila before delivery to the site of the work, but such inspection shall in no way prevent the rejection of such cement after delivery to the site of the work in case of damage, deterioration or subsequently discovered defects."

Concrete masonry shall be made of clean, sound, hard broken stone (for 1:2:4 mixture in main dam) or gravel and sand and cement of qualities specified. The stone shall be of varying sizes, but not greater than 2 inches in maximum dimension. If broken by machinery, the run of the crusher shall be used provided it is clean. The concrete shall be mixed as required in the proportion of one part of cement, two parts of sand, and four parts of broken stone; one part of cement, two and one half parts of sand, and five parts of broken stone or gravel; and one part of cement, three parts of sand, and six parts of broken stone or gravel.

The gate house shall be constructed as part of the dam and shall be of concrete of 1: 2: 4 mixture with steel reinforcing.

Reservoir.—The site of the work is about 5 kilometers southwesterly from the city of Cebu and about 200 meters from the bed of the Labangon River.

The work to be done consists in excavating earth and rock necessary for the construction of the reservoir and its appurtenances and the disposal of excavated materials; building of a valve chamber, and the setting of iron pipes, connections, and all other iron and metal work; construction of walls and embankments, and lining of the entire reservoir.

Under the overlying stratum of coral rock, which is about 60 centimeters thick, it is believed from test pit sunk, that the excavation will be in soft white lime formation easily excavated with pick and shovel.

Water Supply.—Water flows in the Labangon River all the year to within a distance of 400 meters of the reservoir site where it disappears into the gravel foundation. It is believed that a well can be dug in the river 100 meters from reservoir site that will furnish water for concrete during the period when the river does not flow at this point.

Embankments.—The entire embankments as supports to walls are to be built with selected materials deposited in layers not over 4 inches thick, and each layer shall be thoroughly compacted by watering and rolling or ramming. Embankments shall start from a carefully prepared base on the rock. Such embankments as are to be covered with concrete shall be made of an extra width of at least 30 centimeters and afterwards dressed to finished lines.

Masonry.—The entire inner surface of the reservoir shall be lined in the following manner: Over all surfaces in solid rock without defects a plaster coat shall be applied composed of 1 part cement and 1 part sand upon the scored surfaces heretofore described. This plaster coat shall be as thin as possible, flowed and troweled to a smooth and true surface, and shall in surface and appearance be equal to a plasterer finish coat. On all surfaces of embankments, defective rock, or elsewhere a layer of concrete 10 centimeters in thickness shall be placed, and this layer shall be finished with a coating of cement mortar, consisting of 1 part cement and 1 part sand. This skin coat shall in surface and appearance be equal to a plasterer's finish coat. Expansion joints shall be left in all concrete liming.

They shall be formed by the insertion of a wedgeshaped piece of wood 8 centimeters wide and 1.3 centimeters thick at one edge and .3 centimeters thick at the other edge, spaced not more than 6 meters apart in any direction.

After the concrete has set and the plaster coating has been applied, these strips of wood will be removed and the joint filled with an asphaltum compound of suitable consistency, heated to such a temperature as may be necessary to run into and completely fill the joint.

Parapet walls, walks, etc., shall be constructed in the proportions of 1 part of cement, 2-½ of sand and 5 of broken stone or gravel.

Distribution System.—The contractor furnishes all materials, except those specifically to be furnished by the Government, and does everything necessary to complete the work; excavate or dredge all trenches; transport all materials; lay all pipes and specials; set all valves, fire hydrants, and air valves; construct all manholes and set all frames and covers; connect the new work with the existing work; construct all such masonry and timber work as may be required; refill all trenches; restore all streets, highways, channel beds, and all such other structures as may have been damaged due to this work; make all provisions necessary for the safety to traffic by land, furnish all material, tools, implements, labor, and transportation required to build and put in complete working order the entire distribution system for the water supply of the city.

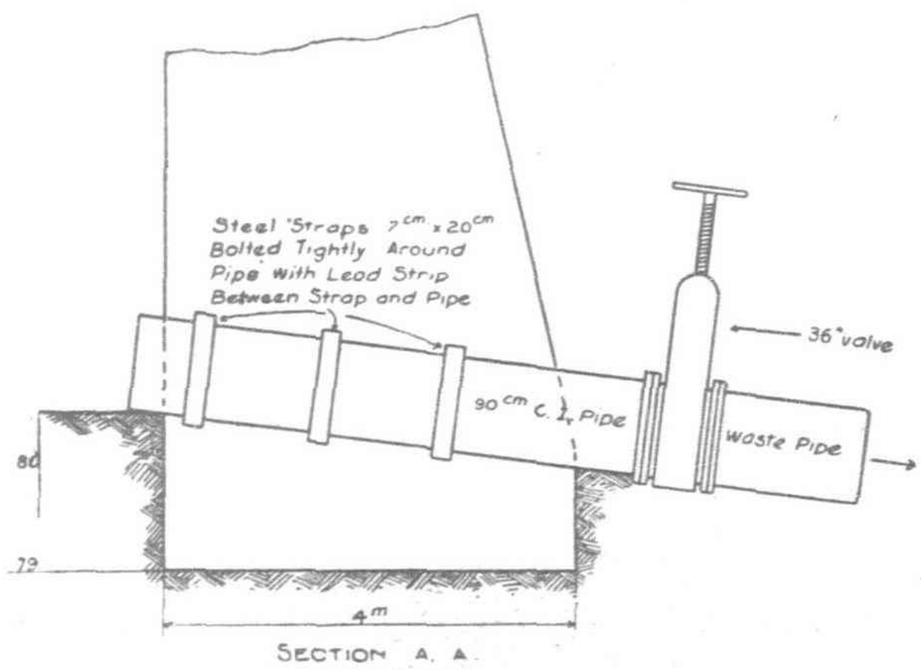
Construction.—Concrete shall be composed of one (1) part, by bulk, of Portland cement, three (3) parts of sand, and six (6) parts of broken stone or gravel.

In mixing, the sand for one batch shall be spread out upon a platform and the cement spread upon the sand. This shall be mixed dry until the whole mass is of a homogenous mixture and uniform in color. Sufficient water shall then be added and the wole mass turned until a uniform stiff paste is produced. The stone or gravel which has been previously wetted shall then be added, and the whole quickly and thoroughly mixed so that every stone is covered with mortar. Water is to be gradually added, if needed, by sprinkling.

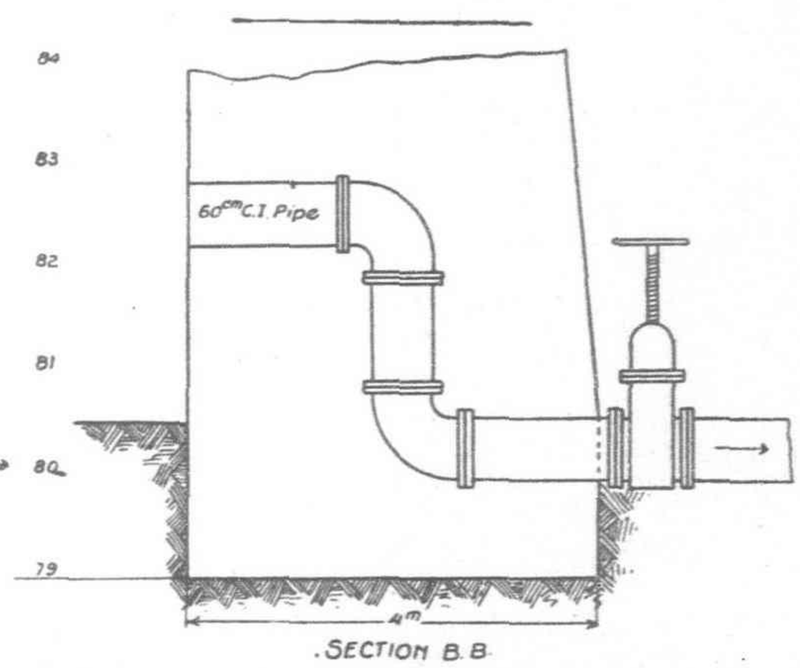
The concrete shall be placed in layers not more than twenty (20) centimeters in thickness, and shall be tamped with light iron tampers until the water appears on the surface, when another layer shall follow the last one as rapidly as possible. Wherever fresh concrete is to be placed in contact with concrete already set, the old surface is to be thoroughly clean from all loose matter and thoroughly washed and wetted before the fresh concrete is deposited. The old surface shall be roughened and a thin layer of fresh mortar spread upon the old surface, to make a good bond between the two surfaces.

Pipe laying.—The trench having been previously prepared, the pipe shall be laid in the trench resting on the ground its full length. A measuring stick of the effective length of pipe shall be provided and the holes for joints dug in advance so as not to interfere with the pipe laying. After the first pipe has been laid and secured, the next pipe shall be shoved home as far as possible, and care taken that the annular space is equally distributed all around the pipe, and the joint shall then be made.

In laying the pipe, the spigots shall be so adjusted in the sockets as to give a uniform space all around. The depth of lead in the joints shall not be less than thirty-eight (38) millimeters, in pipes twelve (12) inches and under, and not less than fifty (50) millimeters for all larger pipes. Packing of clean, sound hemp yarn or jute, braided or twisted, and tightly driven shall be used



SECTION A. A.
WASTE PIPE
Scale 1:50



SECTION B.B.
Lower Intake Pipe
Scale 1:50.

to pack these joints, and when required, a space of six (6) millimeters shall be left between the contiguous pipes.

The following widths of trench are for computation of quantities for earth excavation for the various sizes of pipe:

	Meters.
For 4 to 6 inch pipe	0.50
For 8 to 10 inch pipe	0.60
For 12 inch pipe	0.70
For 14 inch pipe	0.75
For 16 inch pipe	0.80

Cast Iron Pipes and Specials, Valves, Fire Hydrants, etc.—All gate valves and fire hydrants shall have a clear water way of the full nominal dimensions, shall be of ample strength for the hydraulic pressure specified, and all operating mechanism shall be so designed that the gates may be easily operated when working against the maximum head specified.

All bearing, moving, or wearing parts of valves and fire-hydrants shall be either of solid bronze or faced with bronze, unless otherwise specified. Where bronze facings only are used, they shall be well secured to the iron castings. Gate rings to be of bronze, dove-tailed and riveted. The seat rings to be of bronze and screwed in. All stems shall be of solid bronze.

The seats on the gates shall be composed of a mixture of eighty-five parts copper, five parts tin, and ten parts zinc. All other bronze shall be made of 87 5 parts of copper, 10 parts of tin, 2 parts of zinc and 0 5 parts of lead.

All gate valves shall be subjected to a hydrostatic test of three hundred (300) pounds water pressure on each face, while the other face is exposed. All fire-hydrants shall be tested to three hundred (300) pounds water pressure, and shall prove tight at that pressure.

All gate valves excepting the 24" and 36" sizes shall be of double-hub pattern, the hubs to be of standard size, and large enough in circumference to receive the spigot and of standard pipe and specials.

All valves of a nominal diameter of 12 inches and upward to be provided with indicators to show whether valve is open or shut.

All gate valves shall open to the left, an arrow indicating the direction, and the word "Open" cast on their rim. The screw and operating mechanism shall be inclosed in the casting.

The 14", 16", 24" and 36" valves shall be furnished with handwheels. The 6" flanged valves attached to the airvalves will be in a horizontal position. All other valves will be set vertical. No gearing will be required for any of the valves.

The fire-hydrants called for in the specifications are known as a post fire-hydrant with two (2) 2½ inch nozzles.

All fire hydrants shall be of the hub connection type. The hub shall be large enough to admit the spigot end of a four (4) inch cast-iron pipe or special, of the New England Water Works Association Standard.

The distance from the top of the sidewalk to the bottom of the inlet pipe will be about one and a half (1½) meters.

The Eddy Standard pattern hydrant five foot double discharge, 2½ nozzle, 4 inch hub inlet or like hydrant is designated.

The air valves shall be automatic in their action, designed to let air into or out of the pipe line. Each air valve shall include a six (6) inch flanged gate valve equal in all respects to the valves described above.

The pipes used will be made with hub and spigot joints. They shall be straight and true circles in section, with their inner and outer surfaces concentric, and of the specified dimensions in outside diameter. They shall be at least twelve feet in length, exclusive of socket. For pipes of each size from 4 to 16 inches in diameter there shall be two standards. The inside diameter of each class shall be increased from the nominal size in the manner hereinafter specified, so as to obtain the standard thickness and weight. For pipes from 4 inches to 16 inches in diameter only one class of special castings shall be furnished with all classes of pipes.

All pipes having the same outside diameter shall have the same inside diameter at both ends. The inside diameter of the lighter pipes of each standard outside diameter shall be gradually increased for a distance of six inches from each end of the pipe, so as to obtain the required standard thickness and weight for each size and class of pipe.

Special care shall be taken to have the sockets of the required size. The sockets and spigots will be tested by circular gages. The diameters of the sockets and the outside diameters of the spigot ends of the pipes shall not vary from the standard dimensions by more than .06 of an inch for pipes 16 inches or less in diameter.

For pipes whose standard thickness is less than one inch, the thickness of metal in the body of the pipe shall not be more than .08 of an inch less than the standard thickness, and for pipes whose standard thickness is one inch or more, the variation shall not exceed .10 of an inch, except that for spaces not exceeding eight inches in length in any direction, variations from the standard thickness of .02 of an inch in excess of the allowances above given shall be permitted.

Coating of Pipes.—Every pipe and special casting shall be coated inside and out with coal-tar pitch varnish. The varnish shall be made from coal tar. To this material sufficient oil shall be added to make a smooth coating, tough and tenacious when cold, and without any tendency to scale off.

Each casting shall be heated to a temperature of 300 degrees Fahrenheit immediately before it is dipped, and shall possess not less than this temperature at the time it is put in the vat. The ovens in which the pipes are heated shall be so arranged that all portions of the pipe shall be heated to an even temperature. Each casting shall remain in the bath at least five minutes.

The varnish shall be heated to a temperature of 300 degrees Fahrenheit, and shall be maintained at this temperature during the time that the casting is immersed.

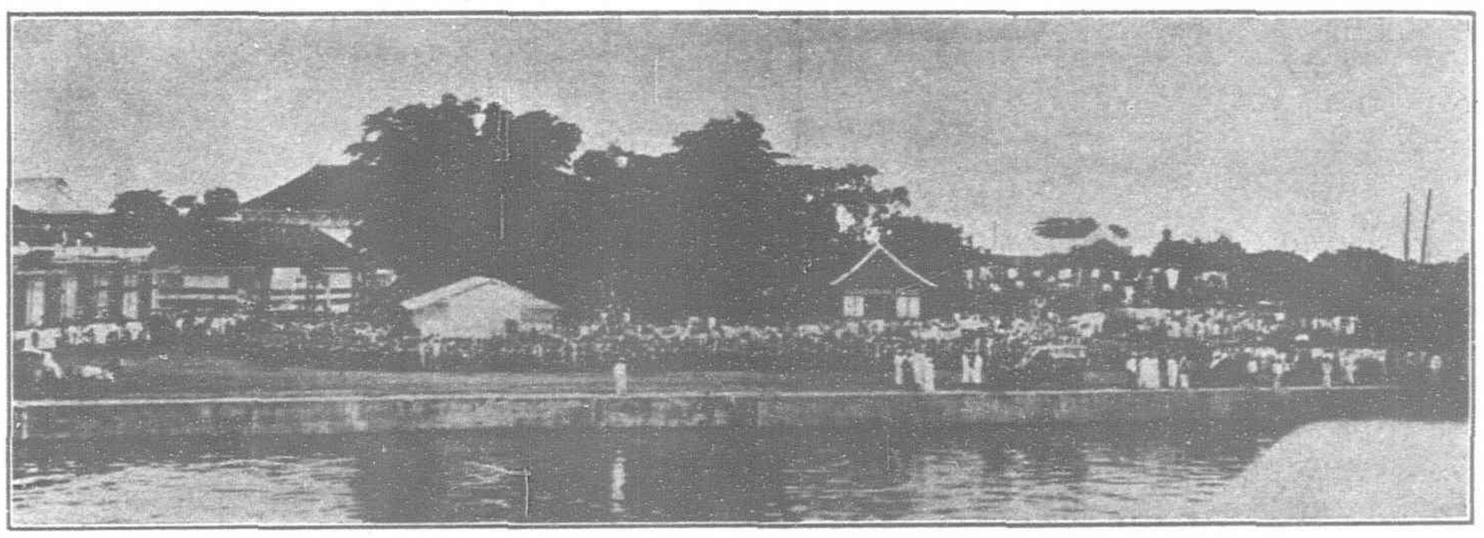
Fresh pitch and oil shall be added when necessary to keep the mixture at the proper consistency, and the vat shall be emptied of its contents and refilled with fresh pitch when pipes shall be carefully drained of the surplus varnish. Any pipe or special casting that is to be recoated shall first be thoroughly scraped and cleaned.

When the coating has become hard, the straight pipes shall be subjected to a proof by hydrostatic pressure, and, if required, they shall also be subjected to a hammer test under this pressure:—

Class of Pipe	20 inch Diameter and larger Pounds per sq.in.	Less than 20 inch Diameter Pounds per sq in
Class A pipe	150	300
" B "	200	300
" C "	250	300
" D "	300	300
" E to K " inclusive	350	300

ACCOUNT OF CAPTAIN KLAUS LARSEN'S TRIP THROUGH THE WHIRLPOOL RAPIDS

Captain Klaus P. Larsen undoubtedly enjoys the distinction of being the first man to absolutely control the savage Niagara Whirlpool Rapids. Others have gone through it and lived to tell the tale, but with the possible exception of the first Maid of the Mist, which went through in 1861 to avoid seizure, and it was due only to good fortune that they were not dashed to destruction on a rock or sucked down in the terrible maelstrom. The Maid of the Mist, even did she pick her course through the rapids, which is hard to ascertain at this date, was manned by three sailors, while Larsen single handed and alone had the rapids completely under his control.



NEW WATERFRONT AT CEBU WHERE DICKINSON'S PARTY LANDED—32 FEET OF WATER ALONGSIDE

Leaving the Canadian Maid of the Mist landing, Larsen and his craft, traveling at the rate of about seven miles an hour, reached the Whirlpool Rapids in eleven minutes. Mounting the big waves the motor boat Ferro was lost sight of part of the time during the voyage, at others she shot entirely out of the water, but through the entire trip Larsen held his craft head on, guiding her just right to take the giant waves without being caught broadside or capsized. At Great Wave the boat was shot perhaps twenty feet into the air, but on going back into the water continued head on along its course. At times the craft careened way over on its side, but being of a specially designed type for open sea duty, properly balasted, quickly recovered. Within three minutes from the time she mounted the first big waves, the motor boat Ferro was through the perilous rapids and making for the whirlpool. First newspaper reports had it that Larsen entered the whirlpool, but according to Larsen's own statement, he avoided the treacherous pool entirely.

There is considerable of science in this feat. All other attempts, with the exception of the first Maid of the Mist sent through for commercial reasons, have been entirely sensational, and have relied entirely upon drifting through safely, or upon guiding themselves by means of man-power alone, which is far from being adequate to successfully cope with such a powerful force. Captain Larsen, however, in his

*A LIQUID CONCAVE MIRROR

By CLINTON H. HULBERT‡ and R. F. BACON.—(*From the Chemical Laboratory, Bureau of Science.*)

The recent publications of Wood† on liquid mirrors induces us to describe a similar mirror with which one of us has been experimenting for several years.§

The general idea of using centrifugal force on liquids to form perfect paraboloid surfaces seems to be very old, but its practical application is of quite recent date.

The principal problem which we undertook to solve was largely a mechanical one. To obtain a perfect mirror it is obviously necessary that the vessel containing the liquid should rotate at a uniform speed and without vibration. The apparatus which we finally evolved to meet these conditions is shown in Plate I. The mirror proper is formed in the innermost of three cylindrical copper vessels, 22, 30, and 36 centimeters in diameter, respectively. The two smaller vessels have double sides with an air space between the walls to give greater buoyancy. In most of our experiments the liquid used was a heavy, black paraffine oil, and each vessel was filled about one-quarter full with this oil. For most purposes the paraffine oil works quite as well as mercury. The two inner cylinders have at the center of the bottom, double cones of steel which causes these vessels to be held in the exact center of the apparatus by means of the magnetic solenoid A. To rotate the pans, an ordinary laboratory motor of one-eighth horsepower was used. This was equipped with suitable gears to vary the speed of rotation and the power was transmitted to the pans by means of a belt, the whole apparatus being mounted on a heavy wooden board. As the oil used is quite viscous, any vibrations due to mechanical imperfections in the bearings of the largest pan are absorbed by the oil, and not communicated to the other two pans. Similarly, any variations in the speed of the motor are approximately compensated by the time the innermost mirror float is reached, as the two inner vessels are run by a liquid friction drive.

In practice, this apparatus has given very satisfactory results. The images formed by a paraffin oil mirror are quite sharp and the focal length and magnification are very easily regulated by changing the speed of rotation by means of the set of gear · heels shown in the figure. With such an exceedingly simple apparatus we were able to secure good views of the craters of the moon.

Plate II shows the film of an incandescent light bulb as shown by a mirror of 30 centimeters diameter, the rotation being such that the fccal length was about two meters and the magnification about four times. It would seem that there would be neither great mechanical difficulty nor great cost in constructing very large mirrors of this type, and as the surface is shaped as a result of molecular forces, it is mechanically perfect, the only possible disturbances being due to vibration or variation in the rotation, both of which factors are practically eliminated by the arrangement of the apparatus used by us.

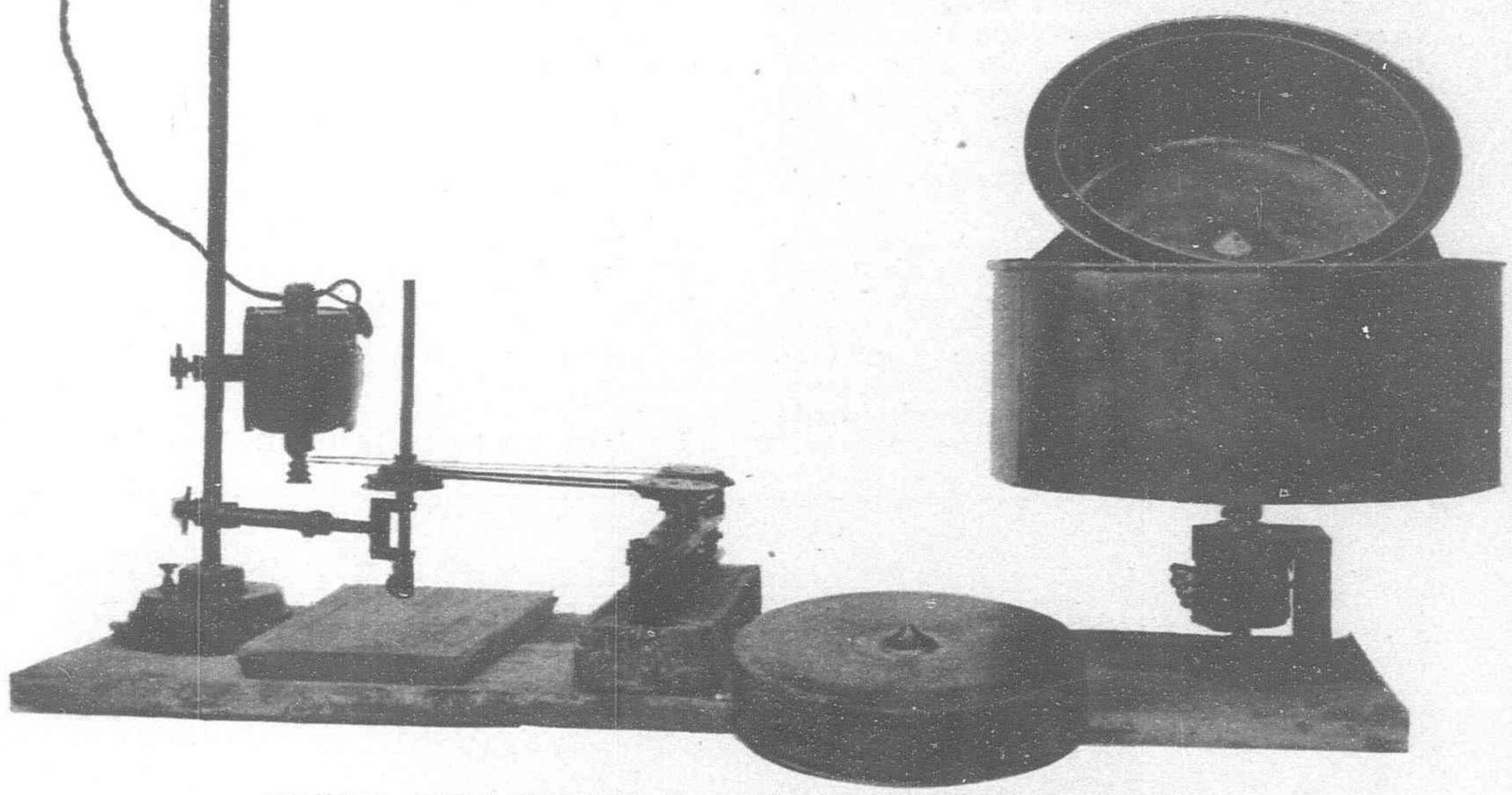


PLATE I. APPARATUS USED IN FORMING A LIQUID CONCAVE MIRROR

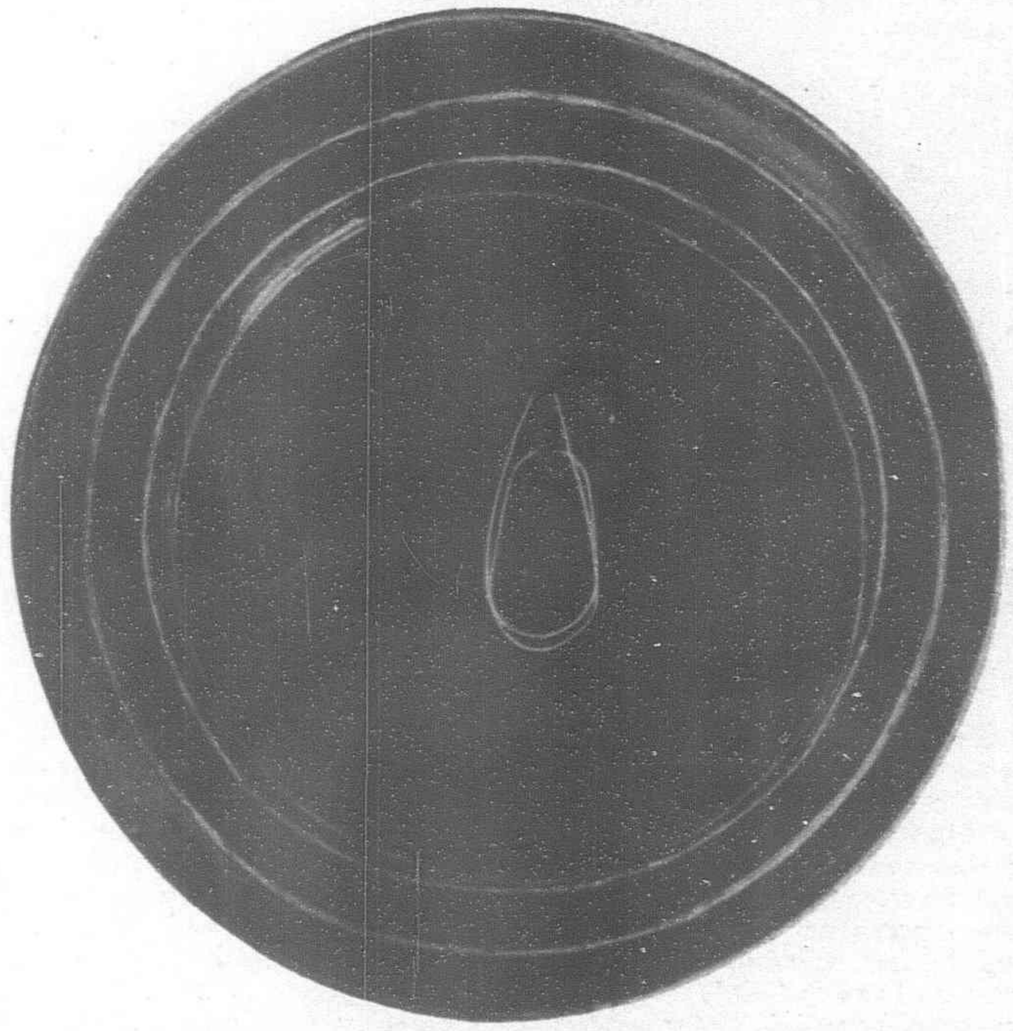


PLATE II. PHOTOGRAPH OF FILM OF AN INCANDESCENT LIGHT BULB

*Reprinted from the Philippine Bureau of Science.
‡Formerly in the Quartermaster's Department, United States Army.
†*Astro Physical Journal* (1909) 29, 165.
§Mr Hulbert first began this work in 1902 and the writer (Bacon) became associated with him early in 1906. A note was published in the Scientific American, 1907, p 103.

---

motor boat, with gasoline power, had absolute control of his craft all the way through the rapids, turning this voyage into one of skill, with fortune only a secondary consideration. Captain Larsen seemed to go where he willed, and according to his own statements he followed almost identically the course he had picked beforehand. An old seadog, having followed the seas since he was a lad of twelve and encountering some of the wildest waters in all parts of the world, he knew how rough waters should be navigated. Larsen prepared for this trip. Before taking his boat to Niagara, he visited there especially to look the rapids over and see if he thought them navigable. After arriving with his boat, about one week before his trip, he could be seen every morning going down the river bank, studying the waters. He planned out the journey just as he wanted to go beforehand, and accomplishment shows that he knew how a job of seamanship like this should be done.

Accomplishment shows, also, that engine propelled craft can be navigated and controlled in the worst seas. It is an established fact that no man can possibly go through the rapids without power, with any degree of certainty. Many felt beforehand that power would be of little avail in these swift, onrushing waters. Some thought that the man might as well have left the engine out of the boat, tied his tiller head on, shut his eyes and gone. Power, however, was shown to be necessary to enable a craft to be guided through the rapids, and ordinary motive power, such as is used in the small pleasure craft seen any day "put-putting" around in the placid waters of our bays and harbors at a speed of about eight miles an hour, was shown to be sufficient to master the mad, swift currents of the big rapids, world-famous for their wildness. Captain Larsen, cool headed and nervy, worked the tiller continuously throughout the trip through the rapids, and guided his craft in the course he wanted her to go. The engine worked perfectly all the way through th rapids, and never faltered here, where the skipper's life depended on it.

The boat in which Captain Larsen made the trip was a life boat model especially designed for open sea duty, 18 ft. in length over all and 5 ft. 2 in. beam. It was built by The Cleveland Auto Boat Mfg. Co., Cleveland, O. The boat drew 24 in. of water. The cockpit was decked completely over with the exception of a round hole about 2½ ft. in diameter in which the captain stood, and from the edge of the opening all around, a canvas was stretched, which during the voyage was drawn in tightly around his waist, shedding the waves, and keeping the cockpit as near dry as it could possibly be kept under such high seas, where it was necessary for him to have his head and shoulders outside the craft and free for use. Captain Larsen is the first man to successfully navigate the rapids with his head and upper body unprotected.

The power mechanism of the craft was an American engine, a two cylinder 8 HP. outfit, of the jump spark ignition type built by The Ferro Machine & Foundry Co., Cleveland, O.

FAR EASTERN RAILWAY NEWS

THE CHEKIANG RAILWAY.—The recent removal of the president of this company that raised a storm of protest has been followed by continued agitation for the cancellation of the loan agreement. It will be remembered that a British loan was arranged for this road through the Board of Communications and the control of the money payments was left to the discretion of the Hongkong and Shanghai Banking Corporation. The control of the expenditure was in the hands of Chinese and the bank did not consider the construction methods such as would warrant them in paying over the loan. Indeed it is reported that when an agent of the British Syndicate that advanced the loan made an attempt to investigate the railway accounts the Chekiang Railway people refused to treat with him. According to the agreement between the Ministry of Communications and the railway, the loan agreement should be cancelled if after eighteen months the money was not paid over to the company by the ministry. This time has elapsed and on this ground the company declares that the agreement is forfeited.

Peking claims that had the company conformed to the understanding with the British Syndicate, instead of refusing to deal with its representative, the money would have been turned over, and since the blame rests with the Chekiang people and that all the other parties to the agreement had stood ready to do their share, the agreement would stand.

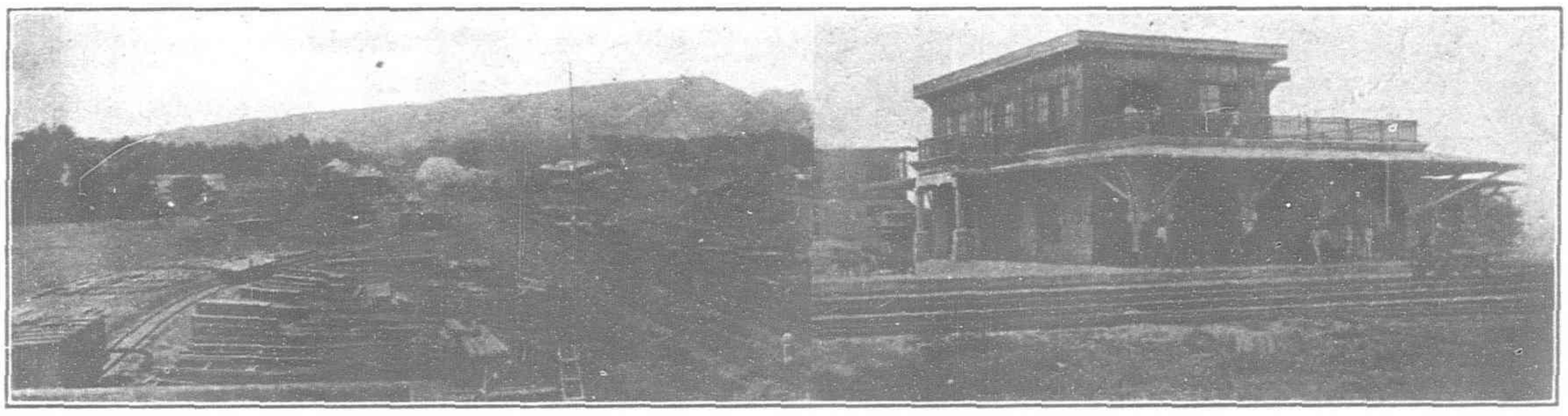
On the other hand, the Chekiang Railway claims that the only difference had with the British Syndicate was based on the character of construction and that the directors of the railway company had never waived their right to use their own judgment as to the standard of construction.

PHILIPPINE RAILWAY PROSPECTS.—The construction of lines of railway through undeveloped areas is a striking charasteristic of modern colonization and perhaps in no instance in recent times has there been more prompt response in returns for traffic than in the Island of Panay where practically an entirely new agricultural empire is being founded. The response in the last three months since the line was completed has exceeded all expectations. The best farming land in the island heretofore inaccessible is being taken up by natives and large producing areas realized which give promise of further expansion. The receipts are steadily increasing and the company is exhausting every effort to encourage the farmer. According to Mr. Goodale, the Supervising Railway Expert, the Panay line is a good railway proposition. The same may be said of the line in Cebu. The advantage of better transportation facilities is appealing to the native farmer and the results are shown in increased receipts. The company has carried out a policy of cooperation with the farmer and businessman that has served to make the line popular. The increased trade at Cebu and Iloilo during the last year has astonished the authorities and railway officials who did not anticipate such substantial progress for some years. The permanent character of the construction of these lines with the ever increasing traffic gives promise that, in a decade, the Philippine Railway will be one of the most valuable properties in the East.

KAIFENG-TSINGTAO EXTENSION.—Negotiations continue between German capitalists and the Ministry of Communications over the proposed extension of the Kaifeng line to Tsingtao via Kaomi.

SAIGON-BANGKOK RAILWAY CONNECTIONS.—Year by year rail communication between those two centers is being advanced on either side of the boundary. On the Bangkok end the line has been advanced to Petriou, while on the Indo-China side a loan has been authorized for 11,500,000 francs to cover the estimate of a line between Mytho and Cantho which when completed will add another section connecting Saigon and Pnompenh. Then there is also the sum of francs 24,000,000 for a railway from Pnompenh to Battanbong. With this construction completed, there will be few gaps to fill to conclude the projected through rail between the two centers. And by the time this is accomplished Bangkok will be connected up with Singapore and probably with Penang.

SUPPLY OF INDIAN RAILWAY MATERIALS AND STOCK.—The Anderston Foundry Company, Limited, England, have a large order from the South Indian Railway for the supply of wrought-iron tie bars and gibs and steel cotters for cast-iron sleepers. Messrs. Guest, Keen and Nettlefold, Limited, London and Birmingham, have a large order from the same railway for the supply of coiled steel keys; and Messrs. Blockow, Vaughan and Company, Limited, for the supply of fishplates for 50lb. steel rails and angle fishplates for 41lb. steel rails. Messrs. Jessop and Company, engineers, have received from the East Indian Railway an order for the supply of ironwork which is required for the strengthening of a large number of iron covered goods wagons and iron open goods wagons. Messrs. John Lang and Sons, Limited, lathe makers, Johnstone, N. B., are supplying two of their universal self-acting lathes to the Burma Railway workshops; and The J. C. Nicholson Tool Company, Limited, a combined welding and forging machine. The Pneumatic Engineering Appliance Company, Limited, have supplied a screen shaker to the Burma Railways Company. Messrs. Cammell, Laird and Company, Limited, Victoria Street, London, S. W., and Proprietors of the Cyclops Steel and Iron Works at Sheffield, have an order for the supply of 4 000 volute springs for rolling-stock to the East Indian Railway; and Messrs. D. Moseley and Sons, Limited, for the supply of one thousand india-rubber buffer draw springs. Messrs. J. Baker and Company, Limited, have a contract for the supply of 200 pairs of wheels and axles for rolling-stock to the East Indian Railway; and Messrs. F. W. Berk and Company, Limited, have supplied 200 gallons of sulphuric acid. Messrs. The Birmingham Railway Carriage and Wagon Company, Limited, have received an order from the East Indian Railway for supply of steel underframes and ironwork, etc., for 42 carriages and ten horse boxes. Messrs. T. Turton and Sons, Limited, Sheaf Works, Sheffield, have an order for the supply of laminated springs for rolling stock to the Assam-Bengal Railway; and Messrs. Sir W. G. Armstrong, Whitworth and Company, Limited, Openshaw Works, Manchester, for a cylinder for a 5-ton accident crane. Messrs. Dorman, Long and Company, Limited, Middlesborough, had a contract for galvanised iron sheets. Messrs. B. and S. Massey, Limited, Openshaw Manchester, are supplying a 5-cwt. pneumatic power hammer to the Bengal Nagpur Railway; and Messrs Dean, Smith and Grace, Limited, Keighley, some light workshop lathes. Messrs. Greenwood and Batley, Limited, Armley Road, Leeds, have an order for the supply of a bolt and nut forging machine. Messrs. Schuchardt and Schutte have a contract for the supply of hobs for a gear-cutting machine. The Electric and Ordnance Accessories Company, Stellite Works, Birmingham, have a large order for the supply of electric motors and switch gear to the Bengal-Nagpur Railway; and the Globe Electric Company, Limited, for the supply of flame arc lamps. Messrs. Dorman, Long and Company, Limited, Structural Engineers, Middlesborough, had an order from the East Indian Railway Company for the supply of 38 bridge girder spans which are required for the Company's new extensions. Messrs. J. Reid and Company, Limited, were supplying 7,200 enamelled labels; and Messrs. Tearne and Sons, Limited, a large quantity of transferables for the East Indian Railway Carriage and Wagon Department. Messrs. Lilleshall and Company, Limited, have supplied one left hand cylinder for a colliery winding engine.—*Railways and Shipping*.



PHILIPPINE RAILWAY CEBU.—TERMINAL DURING CONSTRUCTION

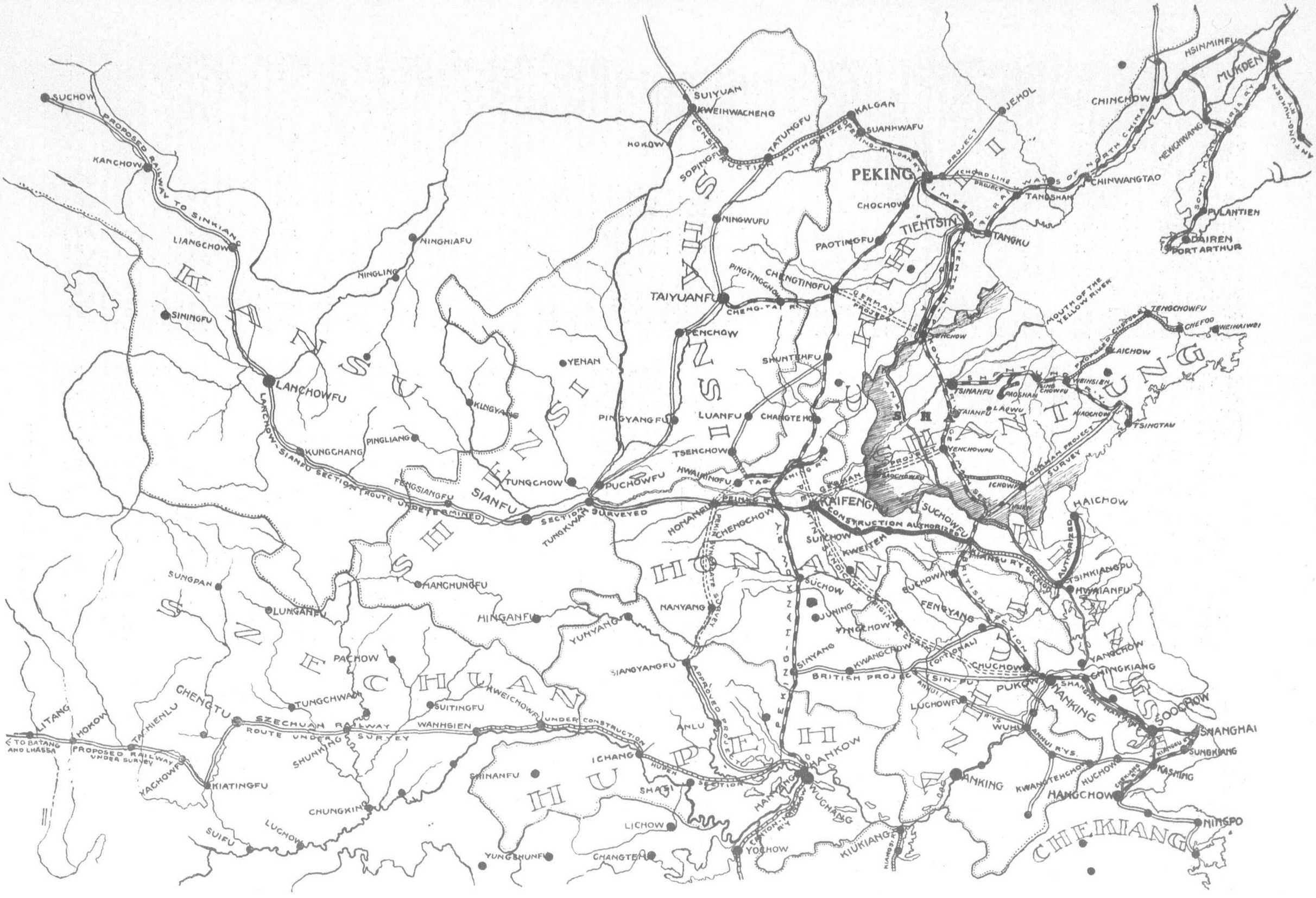
CEBU PASSENGER DEPOT AND OFFICE BUILDING

TIENTSIN-PUKOW-RAILWAY.—Through trains from Tientsin to Taianfu were inaugurated December 20, all the bridges having been completed with the exception of the Yellow River structure which is not expected installed for a year at least. A steam ferry is in operation. The opening of the section between Tsinanfu and Taianfu was celebrated by the laying of the corner stone of the Taianfu Station at the foot of the sacred mountain of Tai Shan.

JAPANESE RAILWAY BOARD PURCHASES FOREIGN ROLLING STOCK.—The following tenders were submitted for the supply of 6,000 pairs of wheels and axles. Messrs. C. Illies & Co.' representing Fried Krupp were the lowest:

Messrs. C. Illies & Co	544,359.00
Mitsui & Co	553.296 00
Okura & Co	572,900 00
A. Cameron & Co	572,250.00
Iida & Co	585,164.90
Takata & Co	591,855.82
Sale & Frazer Co	592,696.00
Hunter & Co	599,200.00
J. Nishizawa & Co	603,547.00

LIENSHAN-MUKDEN RAILWAY.—The *Japan Mail* directs attention to a report appearing in the *Asahi Shimbun* to the effect that a Japanese correspondent from Lienshan states that the land necessary for the new town at Lienshan has been acquired, and that a line of



THE FAR EASTERN REVIEW'S SKETCH MAP OF RAILWAYS IN CENTRAL CHINA

The line of the proposed Kaifengfu-Haichow railway is traced in black, except that portion between Suchowfu and Tsingkiangfu, which is to be constructed by the Kiangse Railway Co., a Chinese concern. The German sphere of influence in Shantung Province is shaded. The new project of the Chinese Government, as outlined on the map, clearly shows its great political importance and bearing one the ambitions of Germany, and the prospects of the British lines, and also its relation to the great Trans-Asiatic trunk line approved by China. The Peking Syndicate railway claims to an outlet from the mines to the Tientsin-Pukow railway are practically nullified by the new Chinese scheme. The German project to link the Tientsin-Pukow line with Kaifeng via Tsaochowfu is also without value in view of the new road. It will be noted also that Haichow stands in the same relation to the Yangtsze River junk traffic, as does the great port of Shanghai, and much of this can be diverted through the Grand Canal to Tsingkiang-fu and through the Yen River or over the new railroad to the new Port of Haichow.

light railway] will be laid between that place and Mukden by the early part of January. If this be true, and we see no reason to doubt it, a very interesting development is about to take place. But it remains to be seen where funds will be found for the projected work. We presume that what is now being done is a part of the so-called minor scheme recently mapped out by an English engineer. But even that scheme requires an expenditure of 3 million taels, and there has not as yet been any definite information suggesting that such a sum has been procured.

STANDARDIZING JAPAN'S RAILWAYS.—A great deal of space is being given in the Japanese press to this subject and definite information as to the railway policy is included in the following program made public by the Government:

I. The plan for the widening of the gauge shall be defined in details and the order of the work be decided.

II. The construction of the projected lines shall not be delayed by the broad-gauge scheme.

III. Not only shall the construction of the projected lines be not delayed, but the appropriation for the purpose shall be increased as compared with the past three years.

Repair measures shall also be taken with regard to such lines as are to be turned into the broad-gauge system.

IV. A Bill for the subsidies to light railways shall be introduced into the Diet, and at least a sum of 10 million yen shall annually be appropriated for the purpose, with a view to improving the means of communication.

V. Light railways shall be built in Hokkaido and on the main land under the management of the government.

For widening the gauge to standard Yen 230,000,000 will be expended in the next 13 years as follows:

1911	4,449,000
1912	4,500,000
1913	6,000,000
1914	10,000,000
1915	13,000,000
1916	14,000,000
1917	15,000,000
1918	25,000,000
1919	27 000,000
1920	27,000,000
1921	30 000,000
1922	30,000,000
1923	24,051,000

MANILA RAILWAY COMPANY'S ACTIVITY.—Construction on the southern lines is progressing favorably. The Calamba-Santa Cruz, which when completed will be 48 kilometers in length, is now being operated for 18 kilometers, and of 63 kilometers of the Santo Tomas-Lucena, about 12 are completed. These branches are feeders of the Manila-Batangas line and the traffic returns are increasing as the lines extend in a measure most encouraging.

In Northern Luzon the company is busy on a survey of the proposed Baguio branch. Several routes are under consideration. There are 25 kilometers open to traffic on the Panique-Taiyug line which will be 50 kilometers in length when completed. The extension of the main line, from Dagupan north to San Fernando, is expected completed within two years if not at an earlier date. It is believed that the entire program of railroad construction as at present contemplated will be completed within the next three years.

JAPANESE LIGHT RAILWAYS.—According to the *Financial and Economic Monthly*, for December, the light railway lines that have been sanctioned since the promulgation of the Light Railway Law on the 3rd of August are 12 in all, though there are still 10 applications still under examination. Those already sanctioned are the Hiratsuka-Hachiwoji line of 24 miles in Saitama prefecture, the Narita-Kashiwano of 22 miles in Chiba prefecture, the Yoshinoguchi-Kitata of 7 miles in Toyama prefecture, the Atsuta-Tokomani of 19 miles in Aichi prefecture, the Wakayama-Kata of 5 miles in Wakaoka prefecture, the Tsu-Yokkaichi of 21 miles in Miye prefecture, the Fukui-Ono of 21 miles in Fukui prefecture, the Mitsuji Kakegawa of 8 miles in Niigata prefecture, the Tomoi Fukuyama of 7 miles in Fukuyama prefecture, the Tsuyama-Emi of 16 miles in Mimasaka province, the Tokushima-Komatsujima of 7 miles in Tokushima prefecture, and the Harako-Kakegawa of one mile in Chugoku provinces.

PRAISE FOR THE F. M. S. RAILWAY SYSTEM—THE *Pinang Gazette says:*

"Mr. H. Kelway Bamber, M. V. O, late head of the Rolling Stock Department of the East Indian Railway and now London representative to Messrs. the Leeds Forge Co., arrived in Penang on Nov. 25 and left next morning for Rangoon. He is making a study of the rolling stock requirements of present day traffic on the railways of India, Burmah, Malaya, and Ceylon. He is a brother of Mr. Kelway Bamber, the Ceylon agricultural expert. In conversation with a *Pinang Gazette* representative at the E. & O. Hotel, Mr. Bamber expressed himself as having been much struck by the smartness with which traffic is moved over the whole F. M. S. Railway system and also with the excellence of its modern coaching stock."

MINDANAO MILITARY RAILROAD.—General Edwards, Chief of the Bureau of Insular Affairs, in his report, has recommended the construction of this line which as proposed is to be built from Camp Overton to Marahui on Lake Lanao near Camp Keithly. It would be utilized primarily for carrying military supplies, but would prove an important factor in developing the country and putting the Moro in touch with markets for his products.

TECHOU-CHENGTING RAILWAY.—The *China Critic* announces that the German proposal to construct a line connecting these two points when the Northern Section of the Tientsin Pukow is completed has been approved by the Board of Communications. This line will connect the Peking Hankow and the Shantung lines.

BURMA RAILWAY SUPPLIES —The contract for the supply of girders for 10 ten, 10 twenty, and 6 forty foot spans has been placed with the Tee Side Bridge and Engineering Works, Ltd., and an order for 24 water tanks and two meter gauge locomotive turntables has been placed with the Horshay Co., Ltd.

THE FUKIEN RAILWAY.—The Amoy correspondent of the *China Mail* writes that the railway has issued a new time table covering the 12 miles now operating and states that the work is being pushed forward up to the bank of the North River, another ten miles or so from Shih Bee, the present railhead. The embankments are nearly completed and many minor bridges and culverts are finished, and it is hoped that the line will be open right up to the river side by the end of the year or early in the new year. The final decision as to the future direction of the railway seems uncertain, whether to go direct to Chang-Chow-Fu by a bridge at this point, or whether to continue the line up the north bank of the river and cross at a point higher up where the river is narrower. This would be less costly and would necessitate a branch line to Chang-Chow-Fu. But if they could carry the line 1,000 miles farther along the river side to the City of Lung Yen Chow and tap the extensive coal mines up there, they would soon get remunerative returns for all their outlay. Another branch might also be made into the Ankhoe (An-Ki) county, a mountainous district full of precious metals.

To do all this far more capital is needed, and it is difficult to see how the company as at present constituted can possibly undertake so large a venture. Probably eventually the Government may have to step in and by means of a loan complete the undertaking. This is imperatively needed, soon, if the trade of Amoy is to be revived.

JAPANESE RAILWAY HOSPITALS.—Hospitals at Tokyo, Kobe and Moji for the care of railway employes are being contemplated by the Railway Board.

THE SHANGHAI-HANGCHOW NINGPO RAILWAY.—The *Shanghai Mercury* states that there is a rumor to the effect that at China New Year the Chinese Government contemplates taking over the Kiangsu section of the Shanghai-Hangchow-Ningpo Railway. This comprises about forty miles of the track from the Shanghai end, and while it is a comparatively small portion of the whole scheme this step would probably be a move in the direction of the salvation of the railway. At present work is proceeding slowly on the Hangchow-Ningpo section, the contractors being employed on about fifty miles of the way starting from Ningpo, and though the work has already been in progress some nine months nothing has been done except the embankments and a few small bridges. Between Ningpo and Hangchow a bridge of considerable size has to be constructed, but so far there is no word of a start being made upon it, and in view of the scarcity of funds which now exists it is likely that some development will have to take place in the situation before this can be tackled. In the native telegrams a few weeks ago it was reported that an attempt had been made to obtain the foreign loan for the railway, but this having proved abortive it is likely that the local Chinese authorities may find themselves at a dead stop before long. Though the statement that the Government is to take over part of the railway is still confined to rumour, it has gained considerable currency, and the hope is that it may lead to matters being placed upon a sounder footing.

PEKING RAILWAY SCHOOL.—This school has been established for over nine years and 350 students are accommodated. The staff comprises 32 teachers the majority of whom are Chinese graduates of foreign schools besides several foreign instructors.

THE SOUTH MANCHURIAN RAILWAY COMPANY.—The seventh half-yearly general meeting of the shareholders of the South Manchurian Railway Company was held at the Tokyo Chamber of Commerce, December 19. The chairman stated that the work of reconstruction of the Antung-Mukden has made headway and the Antunghien-Chikuanshan section would be opened to traffic soon and that the gross profits for the term amounted to 632,000 odd yen, a decrease of about 1,000,000 yen against the previous term. The following is the statement submitted:

	yen.
Profits for the term	632,992
Balance brought forward from previous term	2,316,513
Total	2,949,505
Legal reserve	31,649
Dividend to the Government	500,000
Dividend to shareholders (6% per annum)	60,000
Special reserve	500,000
Bonus to officials and society expenses	54,000
Balance carried forward	1,803 855

BAIKAL-PEKING RAILWAY.—The *Frankfurter Zeitung* is responsible for the announcement that Russia and China propose constructing a line through the Gobi Desert to Peking. This line it is claimed will reduce the distance to Berlin to eight and one-half days or about 600 miles. According to this journal Russia will build the line from the lake to Kiatchka and the balance is to be built by Chinese, the whole to be completed by 1913.

THE KIANGSI RAILWAY.—A report from Kiukiang under date of December 25 states that traffic was expected inaugurated the following day between Kiukiang and Huangtomen, a distance of approximately 20 miles, and that construction trains are operating for a further distance of three miles.

(Continued to page 284)

THE FAR EASTERN REVIEW

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CHINESE NAVAL AND MILITARY REORGANIZATION

The announcement was made by cable from Peking early in December that negotiations were under way to conclude a foreign loan of $30,000,000 gold, the proceeds of which were to be utilized in carrying out the preliminary plans of comprehensive reorganization of the Chinese navy. About the same time an Edict issued on this subject which provided substantially for the division of the Board of War and the conversion of the Naval Re-organization Bureau into a Ministry of Marine with a minister and vice minister in charge. This office will have charge of the inauguration of reforms in the navy. Prince Tsi Hsun was appointed Minister of Marine and Tan Hsueh-hing, Vice Minister.

At the same time the Army Reorganization Bureau was converted into a Ministry of War and Minister and Vice Minister created. General Yin Chang was appointed Minister of War and Shon Shun Vice Minister. These edicts abolished the previous posts of presidents, vice-presidents, councillors and secretaries in both the former reorganization bureaus. Later advices state that besides the Minister and Vice-Minister are to be councillors and three secretaries in each ministry. The refusal of Admiral Sah Chen-Ping to accept the position of Vice-Minister of the Ministry of Marine came as a surprise in view of his long brilliant career and the fact that he was closely associated with the work of preparation of plans for reorganization. He accepted the appointment as admiral of the Yangtze squadron and is reported to have said that he preferred the latter position under the circumstances as he would now be in a position to put his training to practical use. He declared his loyalty to the Ministry and pledged his hearty support. Admiral Sah, it will be remembered, did not support the scheme for the creation of the Naval Ministry believing that it involved much unnecessary expenditure. Tan Hsueh-heng, late director of the Naval Department who was appointed to the position of vice minister, is fully in accord with Prince Tsi Hsun's plans. The immediate program, as nearly as we can ascertain, includes the construction of three first class cruisers, two gun-boats and a torpedo boat flotilla. It is understood that two of the cruisers were ordered constructed from English yards, and one in America, while the two gunboats have been ordered contracted in Japan and the torpedo boats in Germany. These vessels will be the first additions made to the Chinese navy and are not expected completed until the end of 1912.

The question of finance enters largely into the success or failure of the naval scheme and it is for the purpose of covering the expenses of the program for the first term that the $30,000,000 loan has been proposed. In the meantime appropriations have been made for schools, arsenals and improvement of naval ports. The success of the program outlined will be measured by the facility with which the necessary funds are secured.

It was announced, the latter part of December, that Admiral Sah Chen-ping would arrange for a general reorganization of the arsenals in Fokien and Hupeh.

The Army reorganization under the direction of General Yin Chang as Minister of War is looked forward to with interest. It is recognized that the General will spare no effort in carrying out his plans. Already he has declared the administration of the provincial arsenals defective and inaugurated reforms. Arrangements have been made for extensive army maneuvers at Chochow in Chihli next autumn and it is expected that all the new army divisions in that military district will participate.

The original plan of reorganizing the Chinese Army provided for the organization of 36 divisions, two divisions representing the quota from each of 18 provinces. We now understand that General Ying Chang has memorialized the throne to have the number of divisions increased to 64 with three divisions from each of the 21 provinces and another from Pechili. We understand that these additional divisions are for future consideration and are to be taken up after the organization of the 36 divisions is consummated with the exception of the three divisions each in the Manchurian provinces. However, there can be little doubt that China is in earnest in her purpose to develop her national naval and military strength to a degree that will enable her to enforce respect abroad.

It is understood that the admission of 18 cadets to Japan's military schools has been requested and a large number will be sent to other countries. General Ying Chang favors the German military system which will be largely copied in the organization although features that recommend themselves in other armies will be adopted. China will thus follow Japan's example in this respect.

THE CHINESE SENATE AND THE GRAND COUNCIL

The news from Peking refer occasionally to a serious "crisis," but this is always followed by more confident dispatches. A layer of pessimism laid on one day concealed by a layer of optimism the next characterizes the general trend of Peking news and the unknown quantity is the capacity of the Tzucheng Yuan to start the Empire on a well defined road leading to constitutional government. As a whole the members of that body have not made more mistakes than were predicted on the one hand, nor as few as promised on the other, and all in all the initial session has not been a failure.

It must be remembered that the powers of this body are very limited, so that no matter what revolutionary proposal found expression the members had the assurance that it would not do any serious harm. Indeed, we venture to say that if the Yuan had the authority to put into effect legislation without restriction, there would have been a dearth of fireworks. Responsibility has a marked sobering effect, and if the members of the Yuan showed a radical disposition it was largely due to their limited authority.

Perhaps the most characteristic radical expression of that body was the Memorial presented to the Prince Regent impeaching the Grand Council. The gist of it was to the effect that "the Grand Council does not understand its duties and responsibilities, and is therefore not competent to help the Throne. The members of the Grand Council are afraid of being behind others in getting rewards, while in taking responsibilities they are afraid of being before others. That is the first of their offences. Nominally, they are in control of the affairs of the State, but really they are not helping the Throne in the administration of the Government. That is the second of their offences. At the conferences on State Affairs they talk nonsense, and they regard the reading of memorials and other state papers as something of no importance. They try to get rewards and protect their position. They work for their own ends and disregard the interests of the public. Thus the Prince Regent is worried and anxious, thereby offending against those above them, and the people are poor, thereby making the lot of those below them harder. It is sincerely hoped that His Majesty will decide in his omnipotence to issue an Edict supplementing that of the 3rd of the 10th moon ordering the Grand Council to take full responsibility of the administration of the Government before the establishment of a cabinet."

Back came an Edict putting the Yuan in its place and the result was called a "crisis"—so called in the press dispatches. The *North China Daily News* correspondent wired on December 18 as follows:

"An Edict states that the Grand Councillors have resigned *en bloc*, on the plea that they are incapable of rectifying the country's critical condition. The Throne, the Edict continues, recognizes that the Ministers are faithful and able, and their resignation is, therefore, not accepted. The National Assembly had sent a Memorial pointing out that the Grand Council was not a responsible body. This was a matter beyond the scope of the Assembly. The appointment of officials, according to the laws of China, was a prerogative of the Throne.

The inauguration of a Cabinet was also a matter for the Throne to decide; consequently the members of the Assembly should not interfere. The Memorial was rejected.

"The Assembly will discuss the Edict tomorrow and the keenest interest attaches to the debate."

Well, the Yuan was very angry and made all kinds of threats. Long editorials were written commenting on the serious situation. However, since then the situation has brightened. Other matters projected themselves affording sufficient interest to cheer up the pessimist. The Yuan is still in session and no serious calamity has occurred up to the hour of writing. God rules and the Government at Peking still lives.

The reactionary in Peking takes the journalist into a secluded corner and suggests to him a soft place to fall on when the empire goes to the damnation bow-wows through the instrumentality of the Yuan, and the gentleman from Nanking, who is enjoying his first experience as a national legislator who cannot legislate, declares that the dismantled Empire he is trying to navigate against the current of vicious machination of the reactionaries is going on the rocks because the Prince Regent does not recognize sound advice when it is offered. To arrive at creditable conclusions in such an atmosphere is rather difficult and so the conversative correspondent at Peking may well be excused if he refuses to commit himself unreservedly.

We believe the Yuan has passed through its initial session with much to its credit, and that before the real parliament opens, that permanent body will be more fully prepared to give an account of themselves. It will be more confident, better informed, and last but not least, it will be held responsible by those it represents for its every action. We have confidence that ultimatly it will make good.

THE PHILIPPINE FRIAR LAND INQUIRY

While the direction of the Philippine Government has been generally immune to political machinations, the very vague conception of local Philippine conditions and the character of the administration program prevailing among the great majority of the American people, offer a fair field for reckless political propaganda, to the prejudice and injury of faithful officials. And as is generally true of libels everywhere, the truth, when later forced to the fore, is not given the measure of publicity accorded the original misleading sensation. Of these unwarranted attacks, perhaps none have been more vicious than that put in circulation by representative Martin of Colorado for a political purpose, on the floor of the House of Representatives, last July, when he took advantage of his privilege as a member of congress to perpetrate a libel that would have subjected him to serious criminal proceedings, had the statements been made under other circumstances. Substantially, he charged President Taft, General Edwards, Chief of the Bureau of Insular Affairs, and others with being parties to a conspiracy to open up the Philippine Friar Lands for exploitation by the Sugar Trust, and then proceeded to attack Secretary Worcester, of the Department of the Interior, the Hon. Frank W. Carpenter, Executive Secretary of the Philippines, and Captain Sleeper, Director of the Bureau of Lands, with practically malfeasance of office in connection with the sale and lease of several tracts of these lands. A searching investigation by Secretary Dickinson on the ground, and later in Washington by a congressional committee, failed to develop an iota of evidence in support of the charges and the officials whose names have been so bandied about by irresponsible politicians have been fully exonerated.

Among the charges against Secretary Worcester was one allegation to the effect that he had improperly approved the leasing of friar lands to his nephew; that the natives had been prevented by his department through the Bureau of Lands from purchasing public land; that he was a party, through his official control of these lands, to exploit them in connection with the general charge involving the whole Washington administration, and in a general way practically accused Mr. Worcester of corrupt and immoral conduct and malfeasance of office.

Not one of the charges has been substantiated, nor has the investigation developed the slightest basis for reflection on Mr. Worcester's character and conduct. Nor has there been any evidence developed involving the Director of the Bureau of Lands which is under the Department of the Interior. Indeed, every charge fell flat.



THE HON. DEAN C. WORCESTER

SECRETARY OF THE INTERIOR, PHILIPPINE ISLANDS, WHO IS WINNING HALF A MILLION HILLMEN FROM SAVAGERY AND WHO IS RESPONSIBLE FOR ERADICATING EPIDEMICS FROM THE ISLANDS. AN OFFICIAL OF THE HIGHEST INTEGRITY

The charges against Executive Secretary Carpenter were equally unfounded and malicious. Mr. Martin accused him of securing a lease of land of the Tala estate under improper conditions, intimating that the course involved collusion with the Director of Lands to the prejudice of native tenants and at a preferential price. The records show that there was no secret about Mr. Carpenter's interest in the Tala estate, that permission was granted him in the usual manner by the Governor General in January, 1908, to lease or purchase friar land. Before he interested himself in this land, he discussed it with native and American officials and members of the press. An agreement was entered into in the usual course to lease unoccupied and undeveloped lands on the estate and such lands as might thereafter become vacant, paying for the waste land thirty centavos rent per hectare and one peso and fifty centavos on these lands when under crop, and that for land under cultivation and vacated by tenants he should pay the same rate as charged former occupants. An agreement to cultivate certain areas of the wild lands annually was also included. Mr. Martin specifically charged that tenants were evicted by the Director of the Bureau of Lands in order to assist Mr. Carpenter to acquire their land. This charge was proven absolutely false by the records which show that not one tenant on this estate had been ejected from his holding for any reason and that instead of Mr. Carpenter being the land grabber charged, he acquiesced to the wishes of would-be tenants of the wild lands guaranteed to him under legitimate agreement and very kindly waived in their favor his right to rent any or all of the unoccupied land. Every applicant was allowed to acquire such amount of it as he wished with the result that Mr. Carpenter gave up his right in 8,958 acres and without remuneration. Later the would-be tenants refused to accept the terms agreed to by Mr. Carpenter on this land and for this very land that all the row was kicked up about the Bureau of Lands finally acquiesced and the rate they demanded was given without obligation to cultivate and with permission to select the land as against the rate agreed to by Mr. Carpenter under obligation to cultivate and without the privilege of selection.

The charge against Secretary Worcester of irregularity in connection with the leasing of lands to his nephew, E. L. Worcester, was probably the most vicious for the reason that there was not an iota of evidence to sustain it. When Mr. E. L. Worcester made application to lease public lands he conformed to the provisions of law approved by Congress and the whole proceeding in the matter was identical with that required of any other applicant. The application in its nat-

ural course reached Secretary Worcester, who, in view of the fact that his nephew was the applicant, instructed the Director of Lands to refer the matter to the Governor General, but the Director raised the point that the Governor General could not act for the Secretary of the Interior. The result was that Secretary Worcester forwarded all the papers to the Executive in order that full publicity might be given the transaction. In this agreement the prices were those provided by law which no one could possibly change. It might also be remarked that the land involved was not friar land, as charged, but public land. Mr. E. L. Worcester complied with the law in every respect and had Secretary Worcester refused his approval he might then have been accused of failing to do his full duty. However, he protected himself by giving the matter special publicity from just such vicious and unwarranted assaults as that made by representative Martin. A full and comprehensive report on every feature of these charges was prepared by the Governor General, Secretary Worcester and Executive Secretary Carpenter in which each and every one of them were refuted by quotations from the official records. They went to prove that the agreements entered into with the Mindoro Development Company, the Calamba Company, and the lease to Attorney Edward D. Bruce of the unoccupied lands of the Isabela Estate were all regular, legal, and on the same basis as friar lands offered to anyone desirous of leasing or purchasing. The lease granted Mr. Bruce was for one year and for the purpose of making experiments relative to the soil capacity for raising tobacco, and included the privilege of purchase by December 31, 1910, at a price to reimburse the government for its outlay as is the basis of all sales of Friar lands.

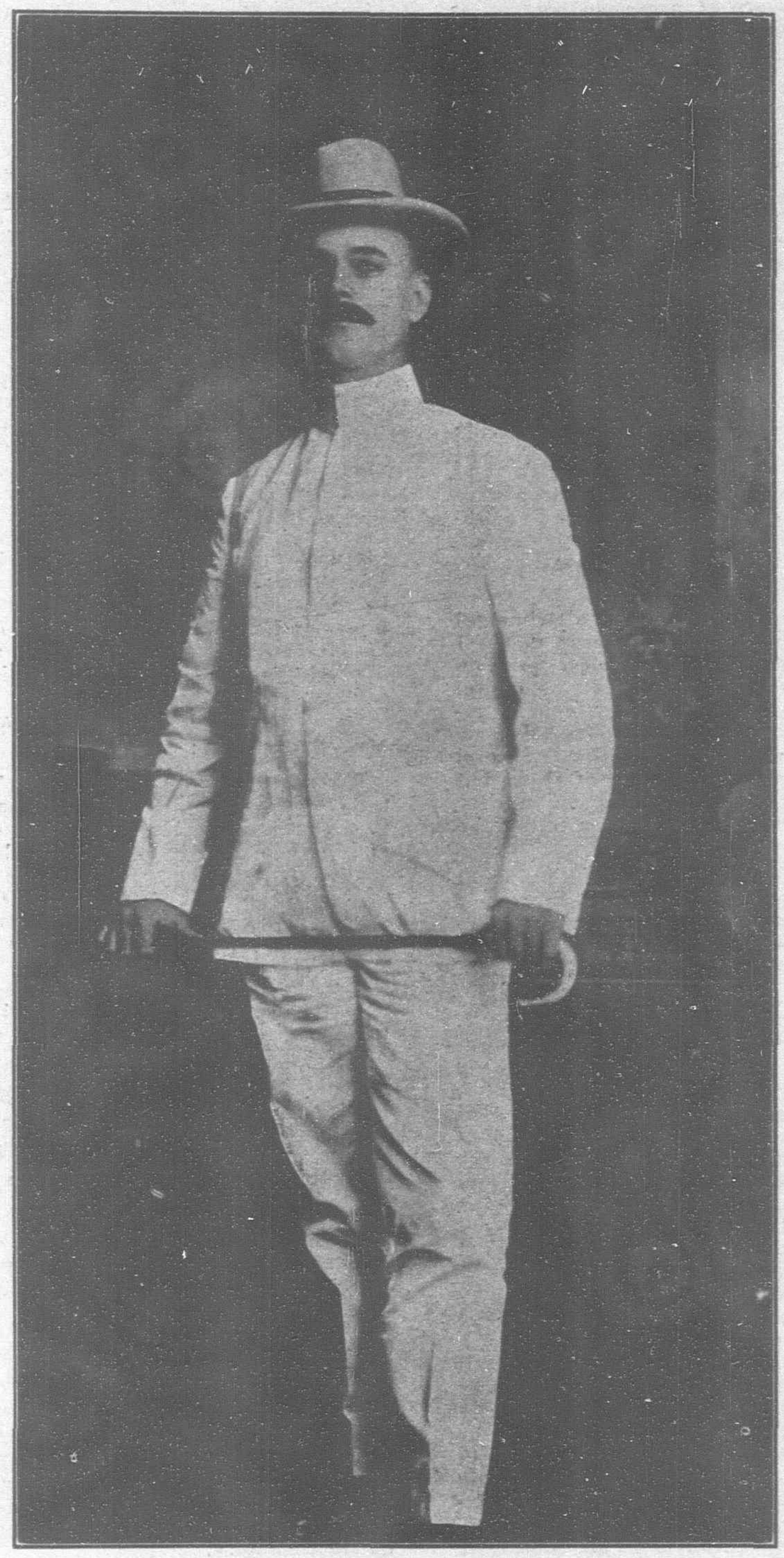
And so the tempest in the teapot subsided as quickly as it started. True, many of those who read Mr. Martin's sensation will remain in ignorance of its vicious and unfounded character, and few will realize the measure of injustice done patriotic and upright officials in the Philippines to make a "Roman holiday." We have, however, additional important and convincing testimony offered by a leading Democrat, a gentleman respected and honored throughout the United States, who came with an open mind to the Philippines and made an independent investigation on the ground. We refer to the Hon. J. M. Dickinson, Secretary of War, and his special report to the President. From this illuminating document we quote:

"Much notoriety has been given in Congress and in the public press to recent sales of the friar lands. These lands amounted in all to 392,000 acres. Of these 260,000 are near Manila, 25,000 are in Cebu, and 107,000 are in the provinces of Mindoro and Isabela. Six million nine hundred and thirty thousand four hundred and sixty-two dollars and seventy cents were paid for the lands, and the price was considered large. It was anticipated at the time that in disposing of them there would be loss to the Government. The purchase was made, not as a speculation nor for the purpose of distributing the lands, but as stated by you in your report, 'on political grounds and for the purpose of bringing on tranquillity.'

"The question of distribution was only incidental to the sale and reimbursement. The main reason for the purchase was to eliminate the friars as landholders. Inasmuch as the Philippine government had burdened itself with a bonded debt drawing interest to get rid of these pernicious landholders, it seemed perfectly plain that it would be following the dictates of common sense to dispose of the unoccupied lands as soon as possible on the most advantageous terms. When the proposal was made to purchase the Mindoro estate at a figure fully reimbursing the government for the cost of the land, with interest and cost of survey and administration added, I could see no good reason why the sale should not be made. I shall not go into the question of the legality of the sale. The opinion of the Attorney-General certainly was sufficient to warrant the administration in making the sale. The island of Mindoro contains 3,851 square miles and 28,361 inhabitants, which is less than 8 persons to the square mile. It is practically undeveloped. There was no demand by any inhabitants there for these lands. It is not probable that they would have been taken up by any inhabitants at any time in the near future. There are hundreds of thousands of other acres of wild lands in the island of Mindoro just as valuable and fully as capable of being used for the culture of cane as are these lands. Lands can be gotten there from the government for a price cheaper than that paid for the Mindoro estate. There are over 20,000,000 acres of public lands fit for agriculture in the islands and inducements upon the most favorable terms are offered to the inhabitants to take them up.

"Unless the Mindoro estate had been sold as a whole to people capable of handling and developing it, it is not probable that the land could have been disposed of at any time in the near future. At the rate of interest the bonds draw, the cost of the lands would in thirty years, when the bonds mature, have represented more than treble the original cost. The Philippine government needs its resources for internal improvements, and it would have been poor financiering to pay interest on the bonds and finally the principal and continue to hold these lands until they would be taken up by inhabitants of the islands, which would mean in the remote future.

"The main opposition to the sale of these friar lands in large bodies in the Philippines



THE HON. FRANK W. CARPENTER

EXECUTIVE SECRETARY PHILIPPINE ISLAND, WHOSE SPLENDID PUBLIC SERVICES IN THE PHILIPPINES IS ATTRACTING WIDE ATTENTION

is based upon opposition to the investment of any foreign capital, and especially American capital, in the islands. The opinion is held by those who mainly voice this opposition that the investing of foreign capital, and especially American capital, in the Philippines will in time develop such a demand for the continuance of American control as will tend to postpone, if not effectually destroy, the realization of Philippine independence.

"Inasmuch as the charges publicly made in Congress and in the public prints involved, besides the general question of sale, the conduct of certain officers in the Philippines, I made an investigation in respect to these, feeling that I had a duty to perform independent of any action of Congress, and that if these officers had been guilty of any misconduct it was not only the right but the duty of the administration to deal with them without waiting for congressional action. These charges involved F. W. Carpenter, Executive Secretary, and Dean C. Worcester, one of the Commissioners. I called upon Governor-General Forbes, Mr. Carpenter, and Mr. Worcester for a statement of the facts, and sought in other ways, and especially by calling on Filipinos who were opposed to the sale of the Mindoro and Isabela estates, for information as to any official misconduct on the part of either Mr. Worcester or Mr. Carpenter.

"I learned nothing whatever detrimental to the character of either of these men. I found that there was considerable opposition to Mr. Worcester, growing mainly out of an abruptness of manner in official relations. In this way he had offended some people and aroused their opposition. Several of such people spoke to me of this, but upon being asked the direct question they said that they knew of nothing affecting the integrity of his action.

"Ordinarily it is invidious to single out some officials for commendation, but in view of the attack which has been made upon these men, I feel that it is right to give the result of my inquiry.

"I refrained from any close association with, and reserved judgment as to, them, until I had exhausted all sources of information. Based on all that I could learn, my judgment is that they are honest, faithful, capable men, devoted to their work, and that it would be a loss to the Government if anything should withdraw them from the public service. Mr. Worcester has a more general and more exact knowledge of the Philippine Islands, their fauna, flora, resources, and inhabitants, than any other man, without exception. He is a mine of useful and practical information, which he is constantly turning to account for the benefit of the Islands. Having a liberal education and a technical education, he has applied himself with great industry and devotion to a study of the Philippine Islands. He has seriously impaired his health in this work. While he has cultivated the *fortiter in re*, rather than the *suaviter in modo*, and thus has made for himself opposition, the real good accomplished by him so far outweighs any objections that might be raised to his somewhat aggressive ways, that the latter are far outweighed in the general account. Though not directly stated, the inference was drawn from the charges made that he as secretary of the interior had approved an unlawful sale of some of the friar lands to his nephew, E. L. Worcester. Mr. E. L. Worcester never purchased an acre of the friar lands. He did lease some public lands, but in the amount authorized by law and at the prices paid for such lands by other people. He had a right to lease these lands and his uncle had no right as secretary of the interior to deprive him of the right to lease them. I found no evidence that Secretary Worcester is interested directly or indirectly in these islands. He stated positively that he was not. I did not hear anyone in the Philippines say that he was. When the application to lease these lands was made, the fact was brought to the attention of Governor Smith. There was no secrecy whatever about it. I found no complaint among Filipinos as to the lease of these lands. Their complaints applied to the sale of the friar lands, and especially the Isabela and Mindoro estates, but not to that part of the friar lands purchased by Mr. Carpenter. The purchase was made by Mr. Carpenter not only with the knowledge but at the instance of the Governor-General. He paid the full price provided for under the law. He has not dispossessed any Filipino. On the contrary, after his contract was made, he permitted Filipinos to come in and participate in his purchase. None of his official duties were in any way connected with the administration or sale of these lands. I do not favor public officials from America in the Philippines purchasing public lands, but I find that it has hitherto been the policy of the administration to encourage investments by employees in the islands. So far from finding any ojections on the part of Filipinos to the purchase by Mr. Carpenter, everyone with whom I spoke in regard to it, and I spoke with many of the leading men, entirely approved of it. In such conversations they took occasion to voluntarily bear testimony to the high character and standing of Mr. Carpenter, their confidence in his integrity, his usefulness in the public service, and to the valuable offices which he had performed in maintaining good relations between Filipinos and Americans. Upon the question of his purchase, I received a letter from Hon. Manuel Quezon, Resident Commissioner, as follows:

Manila, August 12, 1910.

MR. SECRETARY:

I have read carefully Mr. Frank W. Carpenter's reply to the allegations made against him in Congress recently in regard to the lease and purchase by him of friar lands, and, complying with your request for an expression of opinion as to the truth of Mr. Carpenter's statements, I beg to say that I am convinced that they are true.

Furthermore, I beg to confirm all I have stated orally to you regarding the confidence and respect in which the Filipino people hold Mr. Carpenter, officially and personally.

Respectfully yours,

MANUEL QUEZON,
Resident Commissioner to the United States for the Philippines.

To the honorable the SECRETARY OF WAR,
Manila, P. I.

"The following letter from Mr. Osmeña, the speaker of the Assembly, indicates Mr. Carpenter's standing with the Filipinos:

THE GOVERNMENT OF THE PHILIPPINE ISLANDS, OFFICE OF THE SPEAKER,
PHILIPPINE ASSEMBLY,

Manila, August 30, 1910.

SIR: I have the honor of confirming, by the present, the information that, replying to your inquiries, I have personally given you with reference to the conduct, character and reputation of Mr. Frank W. Carpenter, Executive Secretary.

Mr. Carpenter enjoys the highest esteem and confidence among the Filipinos. As an official and as a gentleman he has responded at all times to the best hopes and while he has sustained, and does sustain now, close relations with the Filipinos, his conduct as an official may be presented as a model of intelligence, integrity and zeal. It is known of all that Mr. Carpenter devotes to public affairs time and attention much greater than are customarily given to such matters, not failing to work for a number of hours on legal holidays. His official bearing with all those who in whatever way have had any connection with his office has heightened the regard for him as a man of rare penetration and activity and have gained for him, and with reason, those active sympathies which beyond respect are given to persons who, on compliance with a duty, do it with the generous interest which can only be felt by those who, entirely devoted to their public offices, find a satisfaction in remembering that they are servants of the public and that they must conduct themselves as such.

With respect to the public and private morality of Mr. Carpenter, I do not believe there is anyone, among Filipinos at least, that has not the highest concept of him. Filipinos have complete confidence in Mr. Carpenter and his fruitful labor of the present, which can only be compared with his distinguished past service, constitutes a legitimate and elevated record of honesty, efficiency and patriotism.

Permit me, Mr. Secretary, to be,

Very respectfully yours,

SERGIO OSMEÑA,
Speaker, Philippine Assembly.

Hon. JACOB MCG. DICKINSON,
Secretary of War.

"On January 1, 1910, Commissioner Worcester, secretary of the interior, approved the lease of approximately 47,000 acres of the Isabela estate, with option to purchase this estate, to Edward B. Bruce, of Manila. This estate consisted of approximately 49,500 acres. The scale price fixed was ₱422,500, Philippine currency, together with interest thereon at the rate of 4 per cent per annum from and including the 1st day of January, 1910, the payment of the purchase price or installments thereof, together with all interests accruing thereon, to be made in accordance with the provisions of the friar-land act as amended. This sale price included the cost to the Government together with all charges for interest and administration.

"This Isabela estate is one of the practically unoccupied estates purchased from the friars, and is situated in a sparsely settled part of the center of the island of Luzon.

"At the time the contracts were made for sales in large amounts of these friar lands it was not supposed that objection would be raised thereto. The idea was to handle this, in so far as vacant lands were concerned, as a business proposition."

The Hon. Dean C. Worcester, Secretary of the Interior, has been associated with the Philippine Government practically since 1898. Previous to that time he had visited almost every section of the islands as a naturalist and his knowledge of the people and conditions has made his services invaluable to the government. During all his official service, he has shown unusual executive ability and besides his successful campaign of sanitation, that would alone have won for him the highest honors in the service of any other country, his wonderful accomplishment in winning the wild hillmen to ways of peace will place his name to the fore among administrators of alien and backward races. He is a hater of cant, as are all strong men, and for lying and deceit he has an aversion that has made enemies among a class who love the darkness rather than the light. That he has a "straight tongue" is true. His word is law among the hills and this respect is entirely due to the personality of the man and his absolute sincerity in word and deed. He is the same straightforward man and official in the more civilized sections, and it would appear that the only enemies he has made are those to whom sincerity and frankness are embarrassing.

The Hon. Frank W. Carpenter, Executive Secretary, is a modest, hardworking official, who has been associated with the military and civil government since the early days of American occupation and is probably more closely in touch with conditions affecting every department throughout the islands than any other American. Besides the high testimonial of Secretary Dickinson we have to offer the following:

Governor-General James F. Smith said of him:

"With the exception of the Governor-General, the Executive Secretary comes in more intimate contact with the people of the Philippine Islands than any other official in the Government, and upon his tact, firmness, kindli-

ness, fairness, and comprehensive knowledge of the powers and duties of the Executive Departments and Bureaus of the Government depend the tactful training of newly elected officers, the correction without friction of mistakes made by inexperienced provincial and municipal officials and the smooth working of provincial and municipal governments.

"If it be impossible to make the Executive Secretary ex officio a member of the Commission, nevertheless I strongly recommend Carpenter, the present Executive Secretary, for the office of Commissioner. During the last eleven years he has rendered very valuable services both to the military and civil régime in the Philippines, and it may be said with absolute certainty that there is no man in the service better acquainted with the Philippine situation and its idiosyncracies than is the present Executive Secretary. Carpenter is not a mere machine turning out governmental work as a pure matter of routine. He has constructive ability of a very high order, and to his energy and intelligent intervention the creation of a pronounced public sentiment in favor of public betterments and the placing of provincial and municipal finances on a sound basis are largely attributable. Municipalities without sufficient money to build bridges, public buildings, markets, etc., frittered away their small annual balances for temporary makeshifts and for extravagant salaries to useless officials and functionaries. Carpenter asked the Commission to set aside a sum to be loaned to municipalities for the carrying on of revenue-producing public works, such as markets, toll bridges, ferries, etc., and the small municipal balances have been used at the end of each year, in accordance with his suggestion, to pay the interest on the loans, and revenue derived from the new improvements has been set apart as a sinking fund to pay off the indebtedness in installments. I consider Carpenter is entitled to promotion by reason of his ability, his popularity, and the length and efficiency of his service."

The following is what Governor-General Forbes had to say of him in the same connection:

"In regard to places on Commission, Frank W. Carpenter for ability, services rendered, and standing, deserves first consideration, and believe he should be given an opportunity decide whether he wishes to lead the life of a Commissioner, giving up money-making enterprises, in case such objected to by the President. His appointment would be particularly well received by Filipinos."

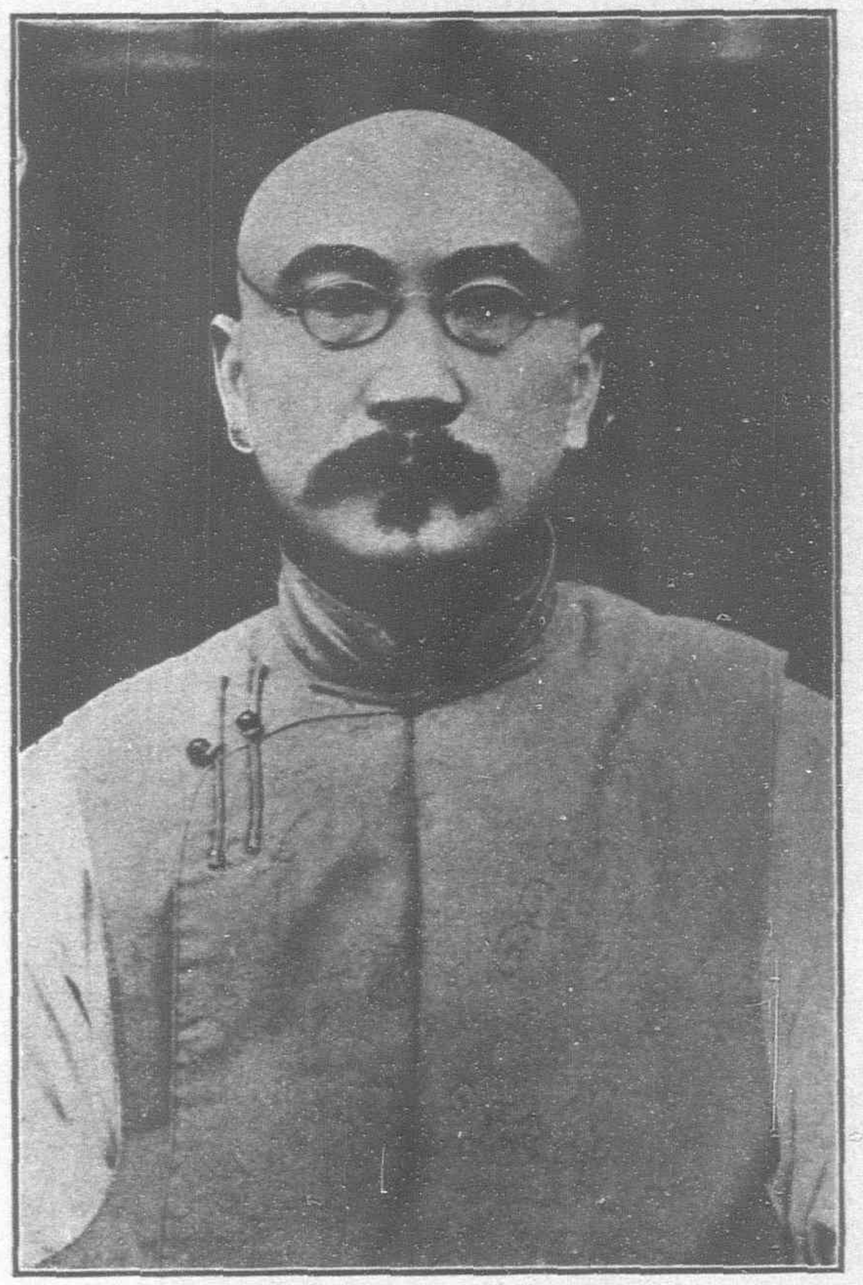
The following is an excerpt from a letter written by Colonel Frank McIntyre, U. S. A., Acting Chief Bureau of Insular Affairs to the Hon. M. E. Olmstead, Chairman, Committee on Insular Affairs, which fully presents Mr. Carpenter's position:

"The reference to money-making enterprises had to do with the purchase and management of a hacienda pertaining to the Tala friar estate. President Taft, while at the head of the Philippine Commission, took the position that the members of the Commission, who were made a legislative as well as an executive body by direction of President McKinley, which action was later confirmed by Congress in the Philippine Organic Act, should not engage in any enterprise in the Islands. Mr. Carpenter, therefore, is not a member of the legislative body, but, as stated in the quotation from Judge Smith, he does occupy one of the most important and influential offices in the Philippines.

"Before investing in the hacienda, Mr. Carpenter discussed the matter with the Governor-General of the Philippines, and the investment was made with the full knowledge of his superiors, and was, of course, a matter well known publicly in the Islands.

"This is not a case of the use of official power to obtain something for the purchase of which there is competition. This hacienda, leased with the object of its possible ultimate purchase by Mr. Carpenter, is land which was not desired by anyone, and he has stood in the way of no purchaser; even those who presented themselves subsequently as desiring parts of this land have been given the right to lease or purchase.

"I have gone iuto this matter to a considerable extent because I wish you to know exactly how Mr. Carpenter is regarded by the Filipino people and by the people who have dealt directly with him. Mr. Carpenter is a man who has risen in the service. He has been an enlisted man and a noncommissioned officer in the Army, and has been a clerk under the military and under the civil government. Our understanding here, and this is borne out by Governor-General Forbes and former Governor-General Smith, is that in investing his savings in the Philippine Islands Mr. Carpenter had given up all ambition for promotion to the Philippine Commission. In making the particular investment which is under discussion—that is, in friar lands—Mr. Carpenter simply accepted a proposition which was going begging in the Islands."



HIS EXCELLENCY TANG SHAO-YI,
PRESIDENT OF THE BOARD OF POSTS AND COMMUNICATIONS WHO RECENTLY OFFERED HIS RESIGNATION ON ACCOUNT OF ILL HEALTH

FRICTION OVER CHINESE EXCLUSION

That the operation of exemption clauses of the Exclusion Law should be marked by friction between Chinese and American authorities is a matter of sincere regret by all who are anxious to advance friendly relations between the two countries. For some time, this subject has been receiving a larger measure of intelligent attention on both sides of the Pacific with the purpose in view of guaranteeing to the Chinese exempted by the law respectful treatment at the hands of the American immigration officials at the ports of entry.

It has been recognized that in order that the spirit of the law may be fulfilled in its enforcement the cooperation of the authorities in China and America is necessary. President Dollar in a speech at Canton emphasized this point and the American Association of China has been active as evidenced by a resolution recently adopted by that body.

It is realized that at one time the American immigration official had occasion to mistrust almost every Chinese claiming exemption and the just and the unjust alike were subjected to the most rigid examination and for the very good reason that a profitable trade had been carried on in South China in the issuance of false certificates. And it was only natural that serious abuses followed.

Were the members of the exempt class provided with such undisputable documentary authority before leaving China, that even the immigration and health officials would be obliged to recognize it, the great source of the present friction would be overcome. This cannot be done without the sincere cooperation of the Chinese authorities who should see to it that no abuse of the exempt provisions was perpetrated by Chinese of the excluded class. Then, with proper health certificates, there could be no ground for friction at the port of entry. But so long as the provisions of the Exclusion Act are disregarded and no effort made on behalf of the Chinese authorities to prevent fraud, just so long will the innocent member of the privileged class be subject to embarrassment.

It would seem that some organization representing the Chinese exempt class who are the only sufferers would take this matter up for self protection, but so far nothing along this line has been accomplished. It would seem that they would have the greatest interest in seeing that fraud was made impossible and we are certain that such a movement would be welcomed by the Washington authorities who have always evidenced their desire to live up to the spirit of the regulations.

The following resolution was recently adopted at the meeting of the American Association of China which reflects the attitude of leading Americans in the Empire:

"Resolved: That the Secretary of the Association be instructed to enter into correspondence with the proper authorities in Washington, through our Minister in Peking and our Consul-General in Shanghai, to enlist their active interest in procuring relief in the matter of harsh treatment accorded the

exempt classes of Chinese seeking to enter or to leave the United States and also that the U. S. Marine Hospital surgeons in China and Hongkong shall have authority to issue final health certificates to intending emigrants from China to the United States."

In the discussion Dr. Fearn said: "Quite often a young man or woman who had every right to enter America went to the trouble and expense of going all the way to America, only to find upon arrival that they could not enter. Formerly Dr. Ransom had authority to issue certificates, but the speaker knew of a case where his certificate was not upheld by the authorities in San Francisco. This would appeal to anyone as being very unfair and unjust, and it was also very humiliating to men who were compelled to return."

Chinese, generally, may feel that the provisions of the Exclusion Act are too rigid, but it will not mend matters if their violation be encouraged. The only hope, however, is of more liberal legislation through better understanding based on sincere cooperation in an effort to make the best of this unpopular legislation that offers such a wide field for misunderstanding and friction.

THE MANILA CIGAR TRADE

Perhaps nowhere in the world has the cigar manufacturing industry advanced to the degree of perfection that has featured its development in the Philippine Islands. The reputation of the Manila cigar was established in Europe many years ago and this has been maintained with its high standard of excellence continuously up to the present writing.

Following American occupation an adjustment of the industry to meet changed conditions became necessary and while the domestic demand increased in large measure due to military occupation, up until the passage of the Payne Bill which provided limited free entry of cigars and cigarettes into the United States, the prospects for the industry were far from bright.

In the year ended June 30, 1909, there were exported 116,278,000 cigars and 53,614,000 cigarettes. The Payne Bill went into effect early in the fiscal year, 1910, with the result that at its close, 196,592,000 cigars were exported of which 83,931,000 went to the United States as against 2,696,000 in 1909, while the export to all foreign countries was practically maintained, the figures for 1909 being 113,582,000 and 1910, 112,661,000. This goes to prove that the reputation of and the demand for Manila cigars in foreign countries have been maintained after many years of trial and is especially appreciable as evidence of the high standard of excellence of the product. This should guarantee an increasing stable market in America under favorable trade conditions.

However, notwithstanding the enviable reputation abroad that the Manila cigar has enjoyed, a well organized campaign has been directed against its good name during the past six months by the predatory tobacco trust in the United States that practically controls the distribution of cigars and the cigar situation generally throughout that country. The methods employed are not very commendable since they are based on vicious misrepresentation designed to prejudice the consumer and hamper the independent retailer by trade duress, the weapon of the Trust when other means fail. The ramifications of this almost perfect organization, now attempting to kill the sale of Manila cigars in the United States, are so extensive that the effect of their campaign is already being felt and unless some concerted effort is made by the Manila manufacturers to combat its influence the damage will be immeasurable.

The organization of the Manila Tobacco Association is a movement in the right direction. Through it, the export may be regulated so that at least one of the many weapons used by the enemy will be taken out of its hands, viz the opportunity of misrepresenting cheap and inferior cigars, manufactured by small Chinese factories, to the American consumer, as a Standard Manila Cigar.

Only by organizing and centralizing the control of export to the United States may this be accomplished and soon the members of the association would realize that in union there is real strength. Effort of individual interests directed against such a solid, effective organization as the enemy enjoys would prove futile. Inconsistencies and conflict in propaganda, among the well meaning Manila interests, could not be avoided working separately, and this would add to the confusion and ineffectiveness. This might be entirely eliminated by cooperation, by pulling together and carrying out a well ordered program.

Once organized and their efforts concentrated, the Association should not neglect a comprehensive publicity campaign in the United States. There should be a well directed advertising propaganda to interest the consumers on the one hand, and the jobbers and retailers on the other.

Had organization been effected and a publicity campaign inaugurated in anticipation of the malicious propaganda of the Trust, the situation would have been easily controlled, but now that the enemy has entrenched itself and will have to be routed out, greater effort and expense will necessarily be involved.

First organize to control the export and see that no inferior product is permitted to damn us, and that the American market is not glutted to the disgust of friendly retailers, start in on the publicity campaign simultaneously, have patience, pull together, and we believe that 1911 would yet prove a banner year. The very news that Manila cigar interests had consummated such an arrangement would be the most comforting news in the way of publicity that our friends in the United States could wish.

GOVERNOR GUERITZ OF BORNEO

After six years of activity in the advancing the interests of British North Borneo, His Excellency, E. P. Gueritz, takes a well-earned leave, and the expression of the high regard in which he and Mrs. Gueritz are held by all classes is evidenced by the many addresses presented to him on the eve of his departure, copies of which appeared in a recent number of the "British North Borneo Herald."

Governor Gueritz is the guardian of the most Eastern British frontier, and the progress made in the development of the wealth of this island empire is largely due to his initiative, sympathy and encouragement. We are well aware of the measure of neglect to which out of the way areas are subjected by the sovereign country, and British North Borneo is not an exception, but it is a matter of congratulation that the stalworth pioneers of British North Borneo have had for a Governor one who never faltered in his belief in Borneo's future and applied himself diligently to overcoming the impossible. Governor Gueritz will not be idle during his sojourn in England. He will be found spreading some of his enthusiasm about Borneo where it will do the most good.

FAR EASTERN RAILWAY NEWS

(Continued from page 278.)

KILIN-CHANGCHUN RAILWAY.—According to the *Japan Times* the prospect for early completion of this line is not so bright as former reports indicated, that only 15 miles from Changchun could be expected completed at the end of the year and states that the remainder will have to be carried over into next year, thoughwork will be brought within 30 per cent. of completion before January. The delay is attributed to two causes. One is inclement weather; the other, diminution of the number of Chinese navvies employed, which diminution was effected by the Chinese contractors for the sake of economy. There are now about 600 navvies at work, and they will be reduced to one half when the extreme cold sets in. The 15th of the eleventh month, according to the Chinese almanack, is fixed for opening the 15-mile section, a date which corresponds to about the middle of December. It appears that a difficulty has arisen in connection with a question of boundaries. An American citizen owns a plot of land measuring 500 *tsubo*, through one corner of which the railway was planned to pass. This American not unnaturally refuses to sell a small bit of his land, the area being already of petty dimensions. But he asks 80,000 *yen* for the 500 *tsubo*, and that price is considered excessive. The plea advanced for such a demand is that the American citizen holds the plot as security for a loan of 90,000 *yen* made to its original Chinese owner. In the circumstances the Japanese Railway Authorities have decided to deflect the route so as to avoid passing through this land.

SUPPLY OF INDIAN RAILWAY MATERILS.—Popes, Electric Lamp Company, Limited, England, supplied 560 Incandesent Electric lamps to the East Indian Railway Electrical Department. The British Insulated and Helsby Cables, Limited, Prescot, Lancashiere, have snpplied the same railway with a quantity of electric cables and accessories. Mssrs. Pritchetts and Gold, Limited, have an order for the supply of 600 accumulator cells to the East Indian Railway Electrical Department which will be shipped from England next month. The Burma Railway Company have ordered the consolidated Brake and Engineering Company, Limited, Londou, for the supply of Vacuum brake fittings. Messrs. W. Beardmore and Company, Limited, Glasgow, are supplying the Bengal-Nagpur Railway Company with steel wheels and axles for rolling stock. The Leeds Forge Company, Limited, Leeds, have an order for the supply of twenty open high-sided goods wagons on the Sheffield-Twinberrow principle or grid system, to the East Indian Railway, delivery at home to be completed next month. The South Indian Railway Company have placed an order with Messrs. The Gloucester Railway Carriage and Wagon Company for the supply of 18 sets of steel underframes and material for passenger carriage stock. The Patent Shaft and Axle Tree Company are also supplying them with 52 pairs of disc wheels and axles, and Messrs. Craven with 100 pairs of spoke wheels and axles. Messrs. Nasmyth Wilson and Company, Manchester, had a large order for locomotive boilers. Messrs. Orenstein and Arthur Koppel have an order from the Chief Engineer, Lower Ganges Bridge, to supply 110 of their standard double side tipping wagons, and 24 set of points and crossings.—*Railway and Shipping*.

THE ACKLEY BRAKE ENTERPRISE.—The Ackley Brake Company, New York City, represented in the Far East by Frank L. Strong, Manila; China General Engineering Co., Shanghai, China; and Sale & Frazar, Ltd., Tokyo, Yokohama, and Kobe, writes that the Havana Electric Railways, Havana, Cuba, have been supplied with 514 Ackley Adjustable Brakes, sufficient to equip all their cars. Several hundreds of Ackley Brakes have recently been placed with roads in China and Japan, and the Ackley brake is also well introduced throughout Australasia where the above company is represented by R. W. Cameron & Co. of Sydney, Melbourne and Wellington. The American licensors for the Ackley Brake have recently shipped an order to the Honolulu, (Hawaii), Rapid Transit Co., who has adopted the Ackley Brake as standard, and has already been supplied with 70 brakes.

An order for 50 Ackley brakes from the New York office of Sale & Frazar to be shipped to Japan, and additional orders from Australia are reported from New York.

Mr. Ackley sailed from New York for Buenos Aires on November 19, and is now in South America where he is placing agencies for his Brake.

CONTRACTING NEWS

BIDS OPENED, MUNICIPALITY OF SHANGHAI.—Supply of 10,700 carbon filament lamps and 15,000 metallic filament lamps.—Contract for former awarded Messrs. Ditmar Brunner Bros, Ltd., at £202, and Messrs. Arnhold Karberg & Co. for the latter at £1,434. The other tenders follow:

(i) 10,700 Carbon Filament Lamps.

	£
Siemssen & Co	192
Ditmar, Brünner Bros., Ltd	206
Molnar & Greiner	206
A. Schweiger & Co. Ltd	209
Melchers & Co	215
Arnhold, Karberg & Co	219
Jardine Matheson & Co. Ld	229
Dickeson, Jones & Co	245
Anderson, Meyer & Co	266
Brighten, Malcolm & King	269
Innis & Riddle	275
Samuel, McGregor & Co. Ld	275
Shewan, Tomes & Co	280
Andersen, Meyer & Co	312
Shanghai Electric & Asbestos Co. Ld	314
Rose, Downs & Thompson	326
Siemens China Elect. Eng. Co	326
Ilbert & Co	330
Andersen, Meyer & Co	340

(ii) 15,000 Metallic Filament Lamps.

	£
Shewan, Tomes & Co	1145
Melchers & Co	1352
Ditmar Brünner Bros., Ld	1360
Phillips Metallic Glow Lamp Works	1387
A. Schweiger & Co. Ld	1400
Siemens China Elect. Eng. Co	1508
Molnar and Grenier	1572
Siemssen & Co	1590
Holland China Trading Co	1687
Ditmar, Brünner Bros., Ld	1729
Samuel, McGregor & Co. Ld	1820
P. Muller	1873
Jardine Matheson & Co. Ld	1906
Inniss and Riddle	1910
Dickeson, Jones & Co	1910
Shanghai Electric and Asbestos Co. Ld	2044
Brighten, Malcolm and King	2189
Ilbert & Co	2224
Rose, Downs and Thompson	2330
Andersen, Meyer & Co	2472
do do	2502

MUNICIPALITY OF SHANGHAI.—Erection and completion of steel superstructure of the Seward Road Bridge—Awarded The New Engineering and Shipbuilding Works, Ltd., at Tls. 3,350, completion within two months. The other tenders follow:

New Engineering & Shipbuilding Works (material supplied by the Cleveland Bridge Co.), delivery 5 months, Tls. 3,100.

Silby & Evans, delivery 1 ½ months, Tls. 3,375.

Vulcan Iron Works, delivery 1½ months, Tls. 3,950.

Shanghai Dock & Engineering Co., delivery 1½ moths, Tls. 4,270.

MUNICIPALITY OF SHANGHAI.—Supply of a motor car for police department-tender of The Shanghai Horse Bazaar, Ltd., of Berliet 12-14 h. p. car at Tls. 3,400 was accepted with following quotation in the Municipal Gazette from Police Report:

"The main reason I have for recommending "the acceptance of the Horse Bazaar tender "for a 'Berliet' 12/14 power car is that by "adoption of this class of car the Council is "certain of proper technical care in its upkeep.

"The want of this has in the past cost the "Council very considerable sums in repair "work.

"The 'Berliet' car will also fulfill another "requirement in any Police car, namely, that "it can, if necessary, and in the event of "trouble in the Settlement, carry 6 or 7 Con-"stables in an emergency to any distant spot."

The remaining tenders follow:—

FIRM	MAKE	H.P.	COST
L. Aubert & Co.	Panhard	12/15	Tls. 7,200
Walter Scharff & Co	Daimler Mercedes	10/20	,, 5,500
Von Düring, Wibel & Co	Thornycroft	18	,, 5,524
C. W. Ure	Ariel	40	,, 4,446
J. W. Gande & Co.	Argyll	16/20	,, 4,000
Jardine, Matheson & Co., Ld	Arrol-Johnston	15/9	,, 3,840
	Humber	12	,, 3,047
	Star	15	,, 3,007
Eastern Trading Co. Ld	Rover	15	,, 3,800
	do.	12	,, 2,950
Shanghai Horse Bazaar Co., Ld.	Swift	14/18	,, 3,600
Olivier Import & Export Co	Cadillac	28.9/33	,, 3,500
E. S. Little	Scout	18/22	,, 3,400
Sennet Fréres	Brasier	12/16	,, 3,400
	do.	10/12	,, 3,000
	do.	10/12	,, 2,500
The Motor House.	Renault	9/12	,, 3,300
H. S. Honigsberg & Co	Studebaker	30	,, 3,000
Arnhold, Karberg & Co	N. A. G.	12/15	,, 2,361
Siemssen & Co	do.	12/14	,, 2,345

BIDS OPENED.—Philippine Bureau of Public Works.—Six Cattle Sheds, Pandacan. Manila Saw Mill ₱11,500.00, each, total ₱69,000.00, 220 working days; M. Manadé & Co., ₱53,656,00, 180 calendar days; Coleman & Goodman, 57,170.00, 240 calendar days; Manila Construction Co., ₱47,750.00, 150 working days; John Gordon, ₱6,950.00, 180 calendar days per shed; Atlantic, Gulf & Pacific Co., ₱6,666.66, 180 calendar days each.

PHILIPPINE BUREAU OF PUBLIC WORKS.—Addition, Bureau of Science. Coleman & Goodman: 1. ₱72,000.00, (a) extra concrete ₱30.00, (b) extra concrete reinforced ₱34.00, (c) extra concrete below grade line ₱40.00; 2. Complete 12 bays ₱77,480.00, 240 calendar days; John Gordon: 1. ₱70,900.00, (a) ₱23.50, (b) ₱29 00, (c) ₱31 00; 2. Complete 12 bays ₱75,800 00, 260 calendar days; S. C. Choy: 1. ₱84,850.00, (a) ₱28.00, (b) ₱35.00, (c) ₱40.00, 2. Complete 12 bays ₱88,740.00, 250 working days; M. Manadé & Co., 1. ₱76,750.00, (a) ₱29.00, (b) 33.00, (c) ₱37 00; 2. Complete 12 bays ₱82,710.00, 240 calendar, days.

PROPOSALS INVITED

BUREAU OF PHILIPPINE CONSTABULARY.—Shoes —Sealed proposals in triplicate will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., February 17, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary 10,000 pairs of shoes.

Bids must be accompanied by samples.

Time for delivery to be stated in proposal and to be considered in awarding contract.

Samples may be seen and blank proposals obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

PROPOSALS FOR FRESH VEGETABLES.—Headquarters Philippines Division, Office Chief Commissary, Manila, P. I., December 15, 1910. Sealed proposals in triplicate, subject to usual conditions, will be received at this office until 11 o'clock a. m., February 1, 1911, at which time and place they will be opened in the presence of attending bidders for furnishing and delivering to the Subsistence Department, U. S. Army, Manila, P. I., such quantities of fresh potatoes and onions as may be required from time to time during period from March 1, to June 30, 1911. About 600,000 pounds potatoes and 120,000 pounds onions will be required per month. Each proposal must be accompanied with a bidder's guaranty in the amount of $5,000.00 or with certified check for that amount on a bank of approved standing in Manila. The bidder to whom award is made will be required to give bond, the penalty of which will be fixed by the Chief Commissary. Blank forms, specifications and all necessary information can be obtained on application to this office. Envelopes containing proposals should be marked "Proposals for Fresh Vegetables to be opened February 1, 1911," and addressed to the undersigned.—D. L. Brainard, Lieut. Col., D. C. G., U. S. Army, Chief Com'y.

Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., April 10, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary 35,000 pairs of cotton socks.

Blank proposals may be obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

PROPOSALS FOR FROZEN FRESH BEEF AND MUTTON.—Headquarters Philippines Division Office Chief Commissary, Manila, P. I., December 31, 1910.—Sealed proposals, in triplicate, subject to usual conditions, will be received at this office until 11 o'clock a. m. April 5, 1911, at which time and place they will be opened in the presence of attending bidders, for furnishing and delivering about six million six hundred thousand (6,600,000) pounds of frozen fresh beef and two hundred thousand (200 000), pounds of frozen fresh mutton to the Subsistence Department, U. S. Army, at Manila. P. I., during year ending June 30, 1912. The contractor will be required to pay all customs duties. The United States reserves the right to decrease the amount advertised for, upon reasonable notice to the contractor, or to increase the amount with his consent. Each proposal must be accompanied with a bidder's guaranty in the amount of $20,000 or with certified check for that sum on a bank of approved standing in Manila. The bidder to whom the contract is awarded will be required to give bond. Blanks and full information furnished on application to this office or to nearest United States Consul. Envelopes containing proposals must be marked: "Proposals for frozen fresh beef and mutton for fiscal year 1912, to be opened April 5, 1911", and addressed to the undersigned.—D. L. BRAINARD. Lieut. Col., D. C. G., U. S. Army, Chief Commissary.

SHANGHAI MUNICIPALITY—The Council is prepared to receive tenders for the supply of:—14 Electric motors from 5 to 20 h. p.

Specifications may be obtained upon application to the Electrical Engineer, Mr. T. H. U. Aldridge, at the Electricity Works, 31 Fearon Road, upon payment of Tls. 26 deposit, which will be returned upon the receipt of of a bona fide tender.

Sealed tenders must be forwarded to the undersigned not later than noon on Tuesday, January 31, 1911.

PHILIPPINE BUREAU OF PUBLIC WORKS.—Sealed proposals plainly marked "Proposals for Eleven Reinforced Concrete Bridges and Culverts, Province of Capiz," will be received at this office, at the office of the District Engineer, Iloilo, P. I., or at the office of the Provincial Treasurer, Capiz, Capiz, P. I., until 11 a. m., January 20, 1911, and then publicly opened for furnishing all material, labor and plant, and constructing complete, eleven reinforced concrete bridges and culverts, located on the Macato-Tangalan Road, Province of Capiz, P. I., in the manner and on the conditions set forth in the form of proposals, plans and specifications, copies of which with other imformation may be obtained at any of the above-mentioned offices.

PHILIPPINE BUREAU OF SUPPLY.—Proposals Invited for Electric Hoist and Trolley Equipped with motors for Hoisting and Travel on

"I" beam. (For Government wharves of the Manila Custom House.) *Specifications*—The system is intended to handle, as rapidly as practicable, general cargo and boxes (single lift not to exceed one ton), from floor to cart or truck, or to transport cargo from one end of wharf to the other in a straight line.

A line of "I" beams will be fastened to the girder of the roof truss, to run longitudinally on each side of the warehouse shed on each wharf (two lines to each shed), on which will be supported and carried the travelling hoists, each travelling hoist to have electric motors; one motion to hoist the load from the floor of the wharf and another motion to cause the hoist to travel on the "I" beam in either direction.

The bidder must submit a drawing showing how "I" beam is to be arranged, by curve or otherwise, at one end of the wharf so that trolleys can run from one side of wharf to the other.

No special machinery is desired, but up-to-date, standard equipment, representing the best practice is what is wanted.

Wharves.—The shed on wharf "A" is 600 feet long and the shed of wharf "B" is 550 feet long, approximately, requiring 1200 and 1100 feet of straight "I" beams respectfully.

Local Conditions.—Electric current available is alternating, 60 cycles, two phase, four wire, 220 volts, or direct current, 200 volts. Any bending of "I" beams will be done locally, all of it being shipped straight.

Equipment and Supplies to be Furnished by Bidder—Standard "I" beam of weight and shape required for travel of electric hoists, in lengths of 25 ft. 2300 ft. plus the additional length required for a connection from one line of "I" beams to the other on the same wharf, for each wharf.

Number of travelling hoists required	10
Capacity of lift, each	2240 lbs.
Approximate hoisting speed per minute	50 ft.
Approximate trolley travel per minute	250 ft.
Head room, floor to truss	22 ft.
Length of travel on each wharf respectively	550 and 600 ft.
Distance between "I" beam supports (building columns and trusses center to center.)	25 ft.

Bidder to quote separately on electrical fittings and supplies, including electrical wire or copper rods, brackets, hangers, insulators, etc., including all material inside shed and warehouse.

Bidder to *show in detail* what electrical fittings and supplies will be furnished.

Bidder to show method of supporting conductors, whether on "I" beam or on column or truss of warehouse.

Bidder to state whether single or two phase (four wire) motors will be furnished and give ratings of motors; also names of manufacturers when bids are submitted. Bidder also to give prices on direct current motors, specifying voltages.

Bidder to quote separately on the standard "I" beam, in 25 ft. lengths. State size and weight of "I" beams.

Bidder to quote on hoists and trolleys fitted with drop cords for operation of controllers from floor.

Bidder to state weight of hoist and trolley, and length of wheel base of trolley.

Approximate speeds only are specified for hoist and travel. Nothing special is required. Standard apparatus is preferred. Bidder to state speeds for hoists and travel. Bidder to state minimum radius curve around which trolley will travel.

Motors to be equipped with any automatic stops which are considered essential. Bidder to state what automatic stops will be furnished with equipment. If possible, trolleys to be equipped with automatic stops to prevent any two hoists coming within twenty-five feet of each other.

Bidder to furnish catalogue and description of apparatus.

Shipping Directions.—Material to be F,O. B. ship, New York, and to be packed in strong cases. Packing to be well done.

Guarantee.—Bidder to state what guarantee he will give on the equipment, performance, durability, efficiency, etc.

Proposal—To be submitted in such shape that, if necessary, order can be placed by cablegram.

To be addressed to

WM. S. NOLTING,
Acting Purchasing Agent.

Proposals will be received Apr. 1, 1911.

PHILIPPINE BUREAU OF SUPPLY.—Proposals invited for Electric Locomotive Cranes.

Specifications.—The crane is intended to travel on "T" rails of a gauge of 4 feet 8½ inches on the wharves. The approximate speeds called for are low as the service is intermittent and rapid hoisting and transporting along the wharves is not essential. The bidder must submit drawing, showing how trolley will be supported. Nothing special is required; standard apparatus wanted which must be capable of lifting ordinary ship cargo from floor of wharf to ordinary truck (say 4 feet.)

Wharves.—Wharf "A" is 650 feet long and wharf "B" 600 feet long.

Local Conditions.—Alternating current available, 60-cycle, two phase, four-wire, 220 volts, or direct current 200 volts.

Equipment and Supplies to be Furnished by Bidder.—Only one crane to be bought, but price given for

Capacity lift	5 tons.
Capacity lift	7-½ tons.
Track gauge (Trail)	4 ft. 8-½ inches.
Approximate hoisting speed per minute	10 ft.
Approximate track speed per minute	250 to 300 feet.
Slow speed (can be slow. To be specified by bidder.)	
Track grade	level.
Track curves (as shown by print). Long radius.	
Boom, maximum clearance from edge of locomotive crane, to hoisting cable to be eight feet. (8 ft.)	
Height of lift. About four feet (4 ft.) bidder to specify height of hoisting hook (top position above floor when boom has clearance of 8 ft. as specified above.)	
Head room, floor to truss	22 ft.

Bidder to quote separately on necessary trolley wire, insulators, hangers, electrical supplies, etc , including all material inside shed or warehouse and specifying same in detail.

Bidder to state whether single or two phase (four-wire) motors will be furnished and give rating of motors and names of manufacturers when bids are submitted. Bidder to give also prices on direct current motors specifying voltage.

Bidder to state weight of locomotive crane and speed of hoists, travel and slowing. Also state the length of wheel base.

Crane to be equipped with any automatic stops which are considered essential. Bidder to state what automatic stops are to be furnished with equipment, also weight of crane complete.

Bidder to furnish catalogue and description of apparatus.

Shipping Directions.—Crane to be F. O. B. ship, New York, and to be packed in strong cases.

Guarantee.—Bidder to state what guarantee he will give on the equipment, performance, durability, efficiency, etc.

Proposal.—To be submitted in such shape that, if necessary, order can be placed by cablegram.

To be addressed:

WM. S. NOLTING,
Acting Purchasing Agent.

Proposals will be received April 1, 1911.

PROPOSALS FOR COAL:—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, P. I., January 7, 1911. Sealed proposals, in triplicate, subject to the usual conditions, for furnishing approximately 65,000 tons of coal to the Quartermaster's Department, U. S. Army, during the Fiscal Year 1912, will be received here until 11:00 A. M. May 8, 1911, and then opened. Information and blank forms furnished upon application. F. G. HODGSON, Assistant Quartermaster General, U. S. Army, Chief Quartermaster.

PROPOSALS FOR INTER-ISLAND TRANSPORT:—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, P. I., November 28th, 1910. Sealed proposals, in triplicate, subject to the usual conditions, for furnishing this Department with one Ocean Going Steamer, suitable for Inter-Island Traffic, will be received here until 11:00 A. M., March 2nd, 1911, and then publicly opened. Information and blank forms furnished upon application. F. G. HODGSON, Assistant Quartermaster General, U. S. Army, Chief Quartermaster.

THE NEGROS PHILIPPINE LUMBER CO.

This company was recently incorporated in Wyoming with a capital of $1,000,000 to take over a twenty year concession covering an area of 50 square miles in the northern part of the Island of Negros and containing, according to forestry estimates, 600,000,000 feet of hardwood timber including apitong, almon, balacbacan, lauan-bagtican, lauan-dulog and red lauan. The company began mill operations October 1, with a plant capacity of 30,000 feet b. m. ten hours run in hardwood or approximately half the output sawing soft woods. This unit of the proposed mill capacity was installed by the Filer & Stowell Company of Milwaukee. A railway is being built from the harbor of Cadiz, a distance of six miles into the forest, and will be completed fully equipped by the middle of December.

A complete modern logging equipment supplied by the Washington Iron Works of Seattle is in operation. The erection of docks, storehouses, houses for employes, etc., has been in progress and the output of the mill utilized entirely for supplying material. It is proposed to add units to the present capacity as the operations expand.

The officers of the company are:—president, Frank W. Broad, Denber, Colo.; vice-president, James H. Ramey, Los Angeles, Cal.; general manager, J. Clayton Nichols, former superintendent Insular Lumber Co., and secretary-treasurer, W. D. Lee, Denver, Colo.

OFFICIAL GUIDE AND HANDBOOK OF THE PHILIPPINE ISLANDS

Captain R. A. Duckworth-Ford, A. D. C. to Secretary of Commerce and Police, advises us that owing to the non-availability of funds at the present time, and to the fact that its scope has been somewhat enlarged over what was at first planned, the *Official Guide & Handbook* of the Philippine Islands will not be ready for sale at the forthcoming Carnival, as was originally intended. The reading matter of the Guidebook is almost completed, and consists of some 30,000 words; and as soon as the necessary appropriation becomes available it will be turned over to the Bureau of Printing, together with a large number of selected photographs illustrative of the text.

The Guidebooks will in all probability be ready for sale and distribution in May or June next.

Valuable contributions and suggestions have been received from the Bureaus of Forestry, Agriculture, Science, Constabulary, and from the Government of the Moro Province, as well as from various individual authorities on special subjects, so that there is every reason to believe that the compilation will "fill a long felt want."

PHILIPPINE MINING NEWS

SURVEY OF PHILIPPINE COAL MEASURERS—Mr. E. Randolf Hix, a coal expert from Pennsylvania, is making a tour of the islands in company with Dr. Warren D. Smith, chief of the Division of Mines, under the direction of the Philippine Bureau of Science, for the purpose of making a complete survey of the deposits of coal with a view to ascertaining the heating qualities of the different deposits by exhaustive tests and to secure the maximum in results. This work will aid greatly in solving the best method of utilizing the Philippine product. The itinerary will include the provinces of Cagayan, Masbate, Camarines, Albay, Sorsogon, Tayabas, Cebu, Infanta, Surigao, and other sections of Mindanao as well as British North Borneo. Previous to visiting the Philippines, he investigated the Japanese coal measures, so that, when he completes this two months trip, he will be in possession of a vast amount of important data on this subject. He is also interested in the making of briquettes. Mr. Hiz has been favorably impressed with the samples of coal that he has seen and believes the deposits will prove one of the most important sources of wealth in the archipelago when developed.

Among the points visited will be the properties of the East Batan Coal Mining Company and of the Federal Government.

SURIGAO PLACER.—It is understood that a company has been formed for the purpose of developing some rich mining property in the province of Surigao. The land is owned by Messrs. Robinson and Urquardt and Messrs. McCullough and Parker of Zamboanga are reported to have purchased a control for $50,000. It is proposed to instal a modern dredge.

MASBATE MINING DISTRICT.—The reports from Masbate indicate the usual activity in development work. The 20 stamp mill of the Colorado Mining Company is being erected. It will probably be six months before it commences operation, but from the most reliable reports available, once it is started, there will be ample ore available to keep it going steadily. This company has to its credit the greatest amount of consistent development work of any company in the islands. It has been most conservative and judicious in its expenditure with the result that its future looks very bright.

Besides this property there are the Keystone and the Syndicate mines, the former advanced to a stage where a small mill is contemplated. The Syndicate mine is considered a low grade proposition, but one in which a large body of ore has been uncovered. We are informed that capital has already been interested in this property and when a certain measure of development work confirms present indications and the ore available is sufficient to warrant investment, a forty stamp mill will be installed.

THE PARACALE GOLD DREDGING CO.—Advices from Paracale are to the effect that this company is taking out 400 ounces monthly and that the Huntington Mill secured to crush large boulders will make a test run this month.

THE PARACALE EXTENSION.—Mr. R. Y. Hanlon, who has been in Paracale testing this property, returned to Manila early this month and is preparing his report. He was favorably impressed with the district, but stated that more effective development work would have to be carried on before capital would look with favor upon a number of properties.

NUEVA ECIJA PLACERS.—Captain Hartman of Sydney, a well known Australian expert, arrived in Manila early this month for the purpose of testing properties in this district with a view to active development. We understand that he represents a large amount of capital. The Captain is well and favorably known among mining men in the Philippines having made extensive investigations of the different districts before proceeding to Australia last fall. While very conservative, he has faith in the future of placer mining in the islands under wise direction.

THE RIO CHICO MINING CO.—We are informed that a contract has been entered into with Australian capitalists by this company whereby the latter engage to transfer their ten claims to the former and receive in return a percentage of stock in a company formed with sufficient capital to instal ten modern dredges, or one dredge on each claim that indicates working values. We understand that the capitalization per claim is £13000, of wich £3,000 in stock is set aside to reimburse the owners, pay for promotion expenses, etc., and the balance of £10,000 covers cost of dredge. This vicinity has shown paying values, but the final tests have not been made. Mr. R. Y. Hanlon has been engaged to expert the ground.

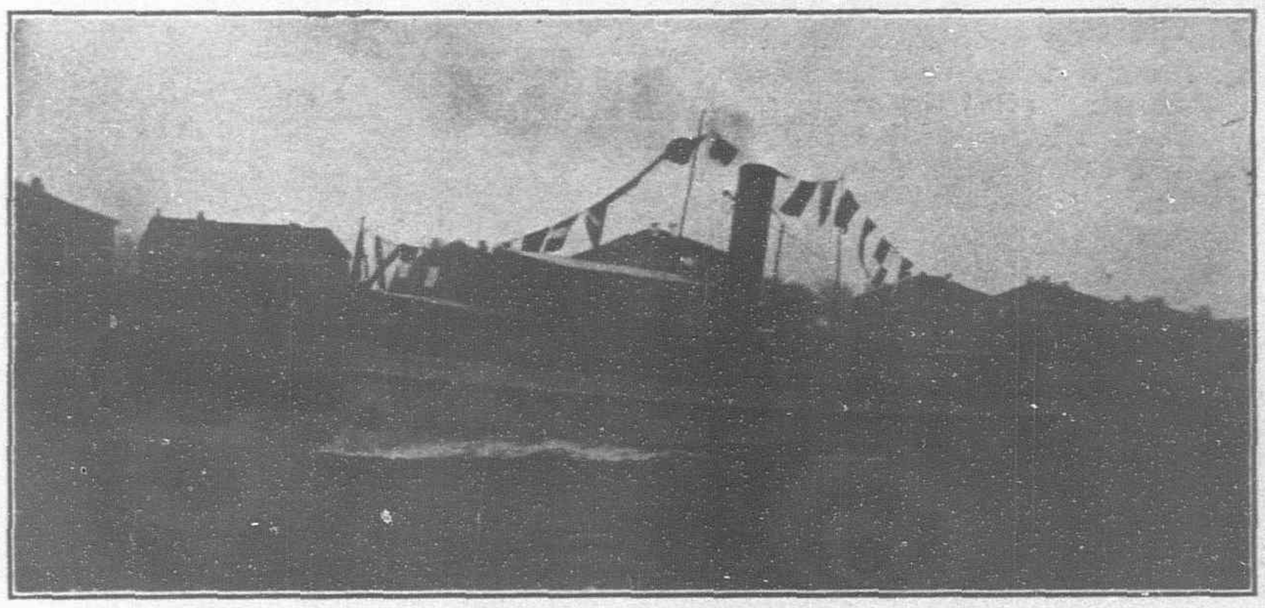
THE HEADQUARTERS MINING CO.—The installation of the plant of this company is progressing favorably and the company expects to begin active operations by the end of April.

THE BENGUET CONSOLIDATED.—A shipment of 93 ounces was received during the month.

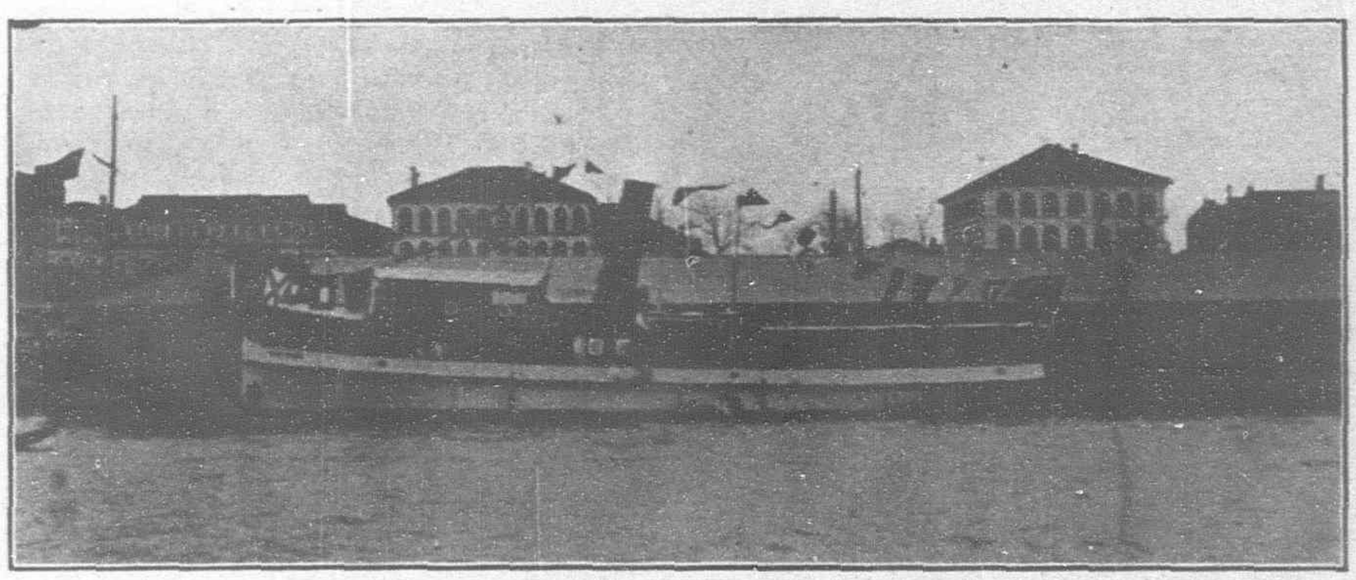
CALIFORNIA GOLD DREDGING BULLETIN.—A publication has just been issued from the California State Mining Bureau, that is of general and local interest, dealing in detail with the remarkable development of the gold dredging industry in California, and taking into consideration the collateral topics of reclamation and debris. The work was compiled under the direction of State Mineralogist Aubury. In an introduction to the bulletin, Aubury has written as follows:

"The construction of the first practical gold dredge in California, in 1898, marks the beginning of a new era in gold mining, which branch of the industry has probably, since its inception, assumed greater proportions in this State than elsewhere. With the rapid advance made in gold dredging and the gradual increase of gold output, have likewise come improvements and enlarged construction, which make the California gold dredge today the model after which other countries pattern.

"The gold industry of this State has received a new impetus, and the production advanced approximately three and one half million dollars above the average output of two years ago. Should other forms of gold mining maintain their average two years from now, California will probably again recover its rank as the leading gold producing State in the Union, and will undoubtedly maintain its lead for many years to come.



THE HAN SHUN UNDER WAY



VIEWS OF THE STEAM TUG HAN SHUN BUILT BY THE YANGTZE ENGINEERING WORKS FOR THE HANYANG IRON & STEEL WORKS.

THE "HAN SHUN"

The Steam Tug "Han Shun" is a steel vessel, 120′0″ long x 21′0″ beam x 12′0″ deep, propelled by one set of Compound Surface Condensing Engines with an indicated Horse Power of about 500. Her boiler is of the Cylindrical Multitubular type constructed to Board of Trade Rules for a working pressure of 120 lbs. per square inch. The Han Shun is specially designed and strongly built for towing purposes, her speed when light being 11 knots and with a tow of 1,000 tons, 7 miles per hour. The vessel has been running satisfactorily since the 15th March, 1910, when she was handed over by the builders, The Yangtse Engineering Works, Hankow, to the owners, The Hanyang Iron & Steel Works, Hanyang. The designer is the General Manager of the Yangtse Engineering Works, Mr. Wong Kwong, M. I. N. A., M. I Mech. E., &c.

"Sufficient area has already been proven in the gold dredging fields to warrant this conclusion. While it has been contended in some quarters that the limits of the dredging areas have already been fairly well defined, and that the large interests and consolidations have a large portion of the fields controlled, new companies are continually being organized for the purpose of exploiting tracts which have been passed over, or others which were prospected a few years ago and turned down, as being too low grade to operate profitably. With the advent of the modern dredge, handling 250,000 to 300,000 cubic yards of gravel per month, at a cost of from 2¼ to 3 cents per cubic yard, conditions have changed materially. The same evolution with dredge mining has occurred as with gold quartz mining in this State, and the question has resolved itself into one of capacity. The present dredge—large as it is—has apparently not reached its limit."

"The dredging industry in California, while adding annually millions of dollars worth of gold to our State's products, at the same time dispenses immense sums to the various channels of trade, and adds materially to our prosperity. It will continue to do this for at least the next decade, and as actual conditions affecting the industry become more generally known, and proper restrictions are maintained, it will be more appreciated and the objections which have been raised will disappear."

In the preparation of the Gold dredging bulletin, a vast amount of material has been accumulated, dealing with gold dredging in California and elsewhere. In the book there are 239 illustrations and a number of maps. The illustrations deal with the process of gold dredging, with geological formations and several pages are devoted to picturing eucalyptus growing on unleveled dredge tailings in the Oroville district.

In the dredging book it is reported that there are operating 63 gold dredges in the State, representing an investment of $8,995,000. The following paragraph will attract attention.

"There is, perhaps, no branch of mining which has come to the front in so short a time as gold dredging, which from 1898 to 1908 produced over $25,000,000 worth of placer gold in California. On account of hydraulic mining being prohibited in many counties, the output of placer gold in California would have shown a marked decrease, in late years, had it not been for dredge mining."

The gold dredging bulletin can be obtained from the Librarian of the State Mining Bureau, Ferry Building, San Francisco, for the sum of $1.50 with 15 cents additional for mailing. Bound copies of the bulletin $2.00 with 20 cents postage.

DANGERS FROM LUBRICATING OILS.—A fertile source of fire in manufacturing, power and similar industrial establishments is oil—not illuminating oil but that used for lubricating purposes. The impossibility of absolutely confining oil within any but the most exquisitely ground type of bearing results in a goodly amount of oil dripping or splashing out of the bearing and on to the floor. If the latter is of concrete, the oil saturates it, thereby weaking the mass and making the floor unsafe. If the floor is of wood, the dripping oil renders it highly inflammable. Only a spark is needed to start combustion. That fire insurance companies recognize this fact is evidenced by the higher rate charged on buildings containing oil-lubricated machinery than on buildings housing machinery lubricated with plastic lubricants, grease, for instance. The ability of grease to "stay where it is put," to use an apt phrase employed by Adam Cook's Sons, manufacturers of "Albany Grease," prevents either splashing or dripping of the lubricant. Consequently, the fire risk is considerably decreased, to say nothing of the considerably increased cleanliness secured. One of the reasons for the widespread use of "Albany Grease" is the recognition by thoughtful engineers of the freedom from fire risk that its use insures.

FAR EASTERN ENGINEERING, CONSTRUCTION, FINANCIAL AND COMMERCIAL NEWS

ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, AEROPLANES, AUTOMOBILES, ETC.

MANILA ELECTRIC R. R. EXPANSION.—The Governor General has approved the application of this company for an extension of its franchise to include a line on Taft Avenue running from Bagumbayan to Calle Herran.

BANGKOK TRAMWAYS.—The Siam Electricity Company has secured several modern coaches for its system and will probably add a nuumber more in the near future.

ELECTRIC RAILWAY FOR CEBU.—A franchise for the installation of an electric street car system in Cebu is now being considered by the Philippine Government. The proposal was submitted by Simplicio Rolis of Cebu and the proposal is for a concession covering a period of fifty years with the privilege of repurchase by the municipality after 25 years at a price to be fixed by the Philippine Supreme Court, sitting as a board of arbitrators.

The application defines the street lines as follows:

Main line—from Pardo to Tupas, Magallanes, Morga and Martires. Branch line—from Morga to the waterfront through North America and Colon Street connecting at Martires street. The concessionaire also asks for permission to double track the proposed lines, with the exception of Lopez Jaena in Cebu and Padilla in the San Nicolas district.

The applicant agrees to provide cars with first and second class compartments and carry passengers at 12 and 10 centavos respectively from any one point to another one way on its lines including transfers. The motive power will be electricity and 50 pound rails will be used. A deposit of ₱10,000 is made. The applicant also agrees if the franchise is granted that he will pay two per cent of the gross receipts to the provincial treasurer of Cebu. He also undertakes to complete the installation of the system within a period of six months after the end of the year in which the franchise is granted.

A bill approving the franchise has passed the first reading in the assembly and will soon go before the commission. It is understood, however, that the Commission will require that bids be advertised for and the franchise go to the most favorable tender.

AVIATORS IN SAIGON.—Marquis de Villeneuve, the well known French aviator, and Van de Born of Belgium fame have arrived in Saigon with Bleriot and Farmin machines. It is understood that these gentlemen will visit other ports in the Orient.

CHINESE WIRELESS.—Plans are being considered by the Imperial Government to extend its wireless system so as to connect the principal ports in the Empire with the capital. It is understood that about a dozen stations along the coast will be installed, with one at Hankow and another at Nanking. After these installations are operating satisfactorily the system will be extended. The principal wireless companies will be invited to make demonstration before the final adoption of any system.

MANILA CARNIVAL ATTRACTIONS.—An electrical, tower, approximately 150 feet in height, crowned with several large searchlights and a mass of electric lights, will be one feature of the Carnival in February. The construction will be in charge of the Manila Electric Railway.

MUNICIPALIZATION OF YOKOHAMA TRAMWAY.—A report from Yokohama is to the effect that the Investigation Committee has recommended that a municipal loan of Yen 9,950,000 be raised for expenses and additional construction.

THE ANGLO-JAPANESE HYDRO-ELECTRIC CO.—The latest on this proposed company is the retirement of the British capitalists and the decision of the original Japanese projectors to carry out the installation. The latter have organized the Oigawa Hydro-Electric Company with a capital of yen 1,200,000 and arranged for the purchase of the Hamamatsu Electric Company. The original project was the harnessing of the river Oi and supplying power to Tokyo, but was abandoned when the Tokyo Railway entered into a contract with the Kenugawa Hydro-Electric Co.

INDO-CHINE WIRELESS AND AEROPLANES.—The French military department has decided to instal a system of wireless stations to connect Cochin-China, Annam, Tonkin and Laos. Stations will be installed at Vienniane, Tourane, Saigon and Luang-Pralang. The cost is estimated at $50,000 and the work will be completed early this year. We also understand that a fleet of airships is to be organized for the colony.

JAPANESE TEST AEROPLANES.—The Japanese military have been making extensive experiments with the Farman biplane and the Guieder monoplane. The latter machine made a successful flight after several accidents as also the Farman machine.

THE BANGKOK AVIATION WEEK.—The *Bangkok Daily Mail* announces the conclusion of preliminary arrangements by the Société d'Aviation d'Extreme Orient for an aviation week at Bangkok the first week in February.

H. R. H. Prince Nakon Chaisee is a patron of the meet and will make a flight himself in the Farman biplane in charge of Mr. Van den Born. The promotors claim that three princes besides three private persons, including a lady, have been booked for "promenade" flights. The grounds of the Sport Club of Bangkok has been placed at the disposal of the promoters.

THE KINAGAWA HYDRO ELECTRIC CO.—This company recently distributed yen 33,100 as interest on paid up capital amounting yen 3,375,000.

SWETTENHAM WHARF TELEPHONE ACCOMMODATION.—The *Penang Gazette* announces that telephonic communication, between the Penang Telephone Exchange and any steamer coming alongside Swettenham Wharf, can now be established in a couple of minutes. The wires run from a sub-exchange, in the little corner office at the approach to the wharf, to one of the lattice electric arc light standards. A flexible twin wire connects a plug on the standard to the portable telephone on board the vessel. This line was used for the first time on Dec. 13, when the B. I. steamer *Taroba* was linked up with the telephone system. Next year, when the telephonic communication is established, it will be possible to talk to Kedah and Perlis from the deck of a steamer in Penang Harbor.

CURTISS' AEROPLANE FOR MANILA CARNIVAL.—Arrangements have been made for the appearance of a Curtiss machine in Manila during carnival week. Mr. Curtiss has started an aviation school at Los Angeles and offers to train a corps of American naval officers in the art of flying. Mr. J. R. Mars, the winner of the Belmont Park prizes, will probably make the flight in Manila.

PRESIDENT OF WESTERN UNION RESIGNS.—After fifty years service in the telegraph business, Mr. Robert C. Clowry handed in his resignation to the directors in November. Theodore N. Vail, president of the American Telephone and Telegraph Co., succeeds him. Newcomb Carlton of The British Westinghouse Co. was elected vice-president.

KASHING ELECTRIC LIGHT.—A company has been formed by local capitalists for the purpose of installing an electric lighting system, according to the Kashing correspondent of the *North China Daily News*. One thousand subscribers have been secured, and the company advertises that it will put lights on main street and bridges without cost if shops, schools, and homes are liberal with their patronage.

OSAKA ELECTRIC RAILWAYS.—The British Consul at Osaka, referring to the extension of the electric railway accommodation, states that considerable progress has been made during the year with the extension of the municipally owned electric railway. Within three months of the beginning of 1910 two new electric railways are to be opened to traffic. The first of these connects Osaka with Kyoto and has a total length of 29½ miles. The other runs from Osaka to Takaradzuka, a summer resort about 16 miles from Osaka. The latter line is subsequently to be extended from Takaradzuka—the present terminus—to Arima and also to Nishinomiya, a town of considerable size on the coast half way between Kobé and Osaka. A further extension from Nishinomiya to Kobé is also contemplated. It is probable that the two lines above mentioned will shortly be linked up with the City Electric Railway and also with the Hanshin Electric Railway, which has been running for the last five years between Osaka and Kobé. In addition to these lines shortly to be opened there have been since the commencement of the year numerous schemes brought forward for the construction of electric railways to various places in the neighbourhood.

CHINESE AVIATORS—In the Na Yuan Parade Ground in Peking a temporary building has been erected by Messrs. Li Pao-Chun and Lim Tso-Chen, who propose to pursue experiments in aeroplanes.

TELEPHONE ANNIVERSARY IN JAPAN—The twentieth anniversary of the establishment of telephone communication in the empire was celebrated last month by the Communications Association of which Baron Gato is president.

BAGUIO ELECTRICAL DEVELOPMENT—The authorization of a franchise for the installation of a hydro-electric plant on the Agno River for the purpose of supplying light and power to the mines of the province passed its third reading. It will be sold to the highest bidder.

WIRELESS STATION AT COCOS ISLANDS—A license has been granted for the installation of a station on these islands, situated about 700 miles south-west of Sumatra.

BAGUIO ELECTRIC PLANT—The Philippine Commission has appropriated ₱30,000 for the establishment of a plant at the summer capital and arrangements have been made to purchase the present plant of the Baguio Electric Light & Power Co.

ELECTRIC EQUIPMENT FOR MANILA WHARVES—The Bureau of Supply have prepared plans for the installation of an electric hoist and trolley equipped with motors for hoisting and travel on an "I" beam at the Government wharves for the handling of cargo.

MANILA AUTOMOBILE CLUB.—This club has been organized for the purpose of the encouragement and regulation of the use of automobiles for recreation and business and the development and betterment of roads and highways in the Philippines. The incorporators are:

Vice Governor Newton W. Gilbert, Major Thomas L. Hartigan, F. W. Dudley, Conrad P. Hatheway, Governor General W. Cameron Forbes, A. R. Roxas, José de Garchitorena, E. Zobel, Leopoldo Kahn, Wm. Swan, Secretary C. B. Elliott, Vicente Singson, Martin Egan, E. B. Bruce, Percy Warner Tinan.

The following are included with the above in the charter membership: Chas. C. Cohn, Ellis Cromwell, Fred C. Fisher, Isauro Gabaldon, Col. James G. Harbord, H. L. Higgins, M. F. Loewenstein, José Robles Lahesa, Frank R. White, Dr. Zitelman.

PUBLIC WORKS, DOCKS, WHARVES, BUILDING, ETC.

THE TANJONG PAGAR DOCK BOARD.—The report for the half year shows a credit balance of $894,365. The following is a comparative statement from the half yearly report:

		Wharf	Docks	Total
		$	$	$
1905	2nd half	1,364,971	969,760	2,334,731
1906	1st ,,	1,491,341	1,016,067	2,507,408
	2nd ,,	1,453,823	854,626	2,308,449
1907	1st ,,	1,547,028	1,000,594	2,547,622
	2nd ,,	1,479,684	1,057,645	2,502,572
1908	1st ,,	1,516,291	986,281	2,502,572
	2nd ,,	1,258,291	961,646	2,219,937
1909	1st ,,	1,364,689	1,070,734	2,435,423
	2nd ,,	1,366,511	953,406	2,319,917
1910	1st ,,	1,490,561	1,046,886	2,537,447

The balances for the same period have been as follows:—

1905.....	2nd	half-year	... 663,319
1906.....	1st	,,	... 702,713
	2nd	,,	... 817,642
1907.....	1st	,,	... 803,944
	2nd	,,	... 857,158
1908.....	1st	,,	... 804,772
	2nd	,,	... 746 324
1909.....	1st	,,	... 826,843
	2nd	,,	... 754,422
1910.....	1st	,,	... 894,365

Prye River Dock section shows a profit of $28,354.

THE WHANGPOO CONSERVANCY—The reorganization of this board has been announced. It will be known as the Conservancy Board and comprise the Shanghai Taotai, the Shanghai Custom's Commissioner and the Coast Inspector. This Board receives its authority direct from the Imperial Government and will be independent of provincial officials. The authority of the board is defined and it will control the expenditure of the annual grant of Tls. 400,000 and their duties shall be primarily to maintain the present conservancy in effective condition and to carry out new works as it deems necessary.

SHANGHAI SEWER EXTENSIONS—According to the engineer's report for November Tls. 22,000 were expended in relaying sewers in Kaifing, Jehol and North Tibet Roads. This work was made necessary by the closing of the outlet of the Haining Road Sewer in 1908 by the Chinese authorities.

A MILLION FOR MUNICIPAL MARKETS.—A bill has been submitted the Philippines Assembly providing for an appropriation of ₱1,000,000 for the construction of modern municipal markets throughout the islands in pueblos that show a total market income of over ₱2,500, and no municipality should receive aid to exceed ₱8,000.

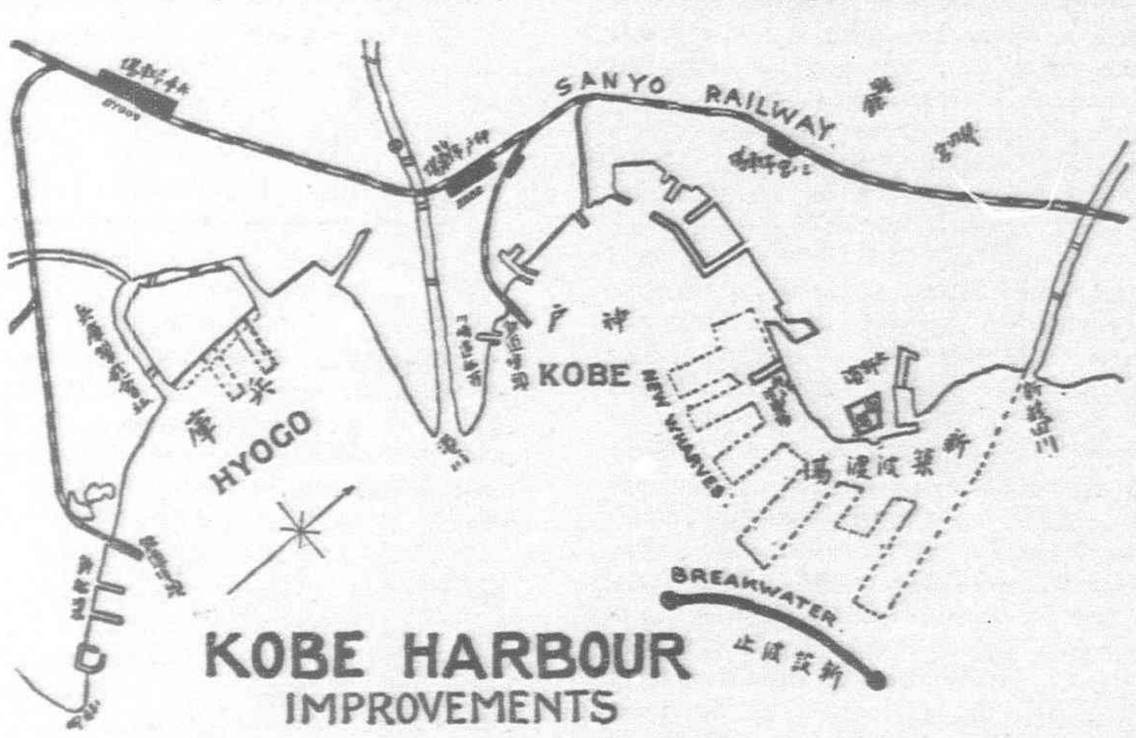
KOBE HARBOR WORKS.—The plans outlined provided for the expenditure in ten years ending 1917 aggregating yen 16,740,000, and of this up to the end of 1909 about yen 3,000,000 was spent. According to the report of Mr. Consul General Layard, there are to be four piers, three of which are to be double. The total length of quay accommodation will thus be 2,800 yards, capable of accommodating 19 vessels. The piers will have a depth of water alongside ranging from 30 to 36 ft., capable of accommodating vessels of very large tonnage.

It has now been decided to construct the quay walls with ferro-concrete caissons. The laying of solid concrete blocks is rendered difficult by the bad weather which at times prevails at the entrance to the harbour, and it is mainly with a view to obviating this difficulty that the said new scheme has been put into practice. The staging necessary for the construction of the caissons has been erected, and one caisson is practically complete. The dimensions of each will be as follows:—Length 120 ft., width 24 ft. and depth 30 ft. The floating dock for transporting these caissons to the site of the piers has been constructed at the Kawasaki dockyard at a cost of 250,000 yen (£25,520). Altogether about 80 caissons will be required. The quay walls are to be built up on the foundations thus formed, and the intervening spaces then filled up with saud, rubble, &c. Dredging is now being carried out at the spots where the caissons are to be placed. The weight of each caisson before filling will be 2,500 tons, and after filling 7,000 tons.

The eastern breakwater, on which a sum of 3,600,593 yen (£367,561) was spent in 1906, is to be used as one of walls of the eastern pier. The blocks for this breakwater have mostly been completed, but have not yet all been placed in position. Altogether about 8,000 blocks will be required, each weighing about 7½ tons.

The scheme upon which work is now being carried out makes no provision for a breakwater outside the harbour, without which shipping will always be liable to serious inconvenience in high winds from the south. A scheme of breakwaters has been approved by the Harbour Investigation Committee of the Home Department. It is a modification of the many that have already been advanced and will include a breakwater starting 500 yards from the end of the eastern pier and extending in a slight curve southwards and westwards towards Wada Point. The idea is to complete a distance of 1,200 yards of this breakwater (about one-fourth of the whole) at the same time as the harbour works, and work is to be commenced as soon as the scheme is sanctioned by the Diet.

The stone jetty for passenger launch traffic at the western side of the harbour is now in course of extension.



Sketch of Kobe Harbour.

THE KAILIN CANAL COMPANY.—The project to construct a canal along the foreshore from Yokohama to Tokyo being promoted by this company is to be carried out on a new plan. The Company proposes to reclaim a large area at Shinagawa by utilizing the earth excavated in constructing the water way and thus reimburse itself by the sale of the reclaimed portion. The total estimates for both works proceeding simultaneously amount to approximately 15.-000,000 yen.

JAPAN HARBORS.—The harbors of Yokohama, Kobe, and Moji have been recommended controlled by the Imperial Government and Imperial aid is proposed for Tokyo, Bay, Nagasaki, Yokkaichi, Saka, Tsuruga, Aomori, Funakawa, Shiogama, Hakodate, Otaru, etc., and the balance to be maintained by the prefectural government.

PEKING SENATE HOUSE.—A report from Peking is to the effect that a tender has been received from a German firm for construction of this building and the contract price is reported to be Tls. 2,000,000.

PHILIPPINE ISLANDS DEFENSE WORKS.—According to the report of the Chief of the U. S Engineer Corps, the estimates submitted for the insular fortifications amounted to $1,160,000, which, it is believed, will complete the works as at present projected. In addition to this amount, $248,823 was provided for electrical installations for Philippine fortifications.

THE SWATOW WATERWORKS.—Work is under way on this construction, the contract having been let to a Hongkong firm. The water will be carried about six miles along the Chow-Chow-fu Railway.

OSAKA HARBOR WORKS.—The following is an excerpt from the report of the British consul at this port:

"The harbour at Osaka, which was constructed some years ago by the municipality with the idea of attracting foreign trade to the port, suffers greatly from lack of warehouse accommodation and from the fact that the main pier (which has a length of 1,500 ft. and is capable of accommodating six vessels at a time), has no railway connection with the city. As a result all cargo, except that which is carried in small vessels of shallow draught which can be brought up the river for a distance of about 3 miles to wharves in the city, has to be discharged into lighters for distribution to the numerous warehouses in the city. In this respect, moreover, Osaka has exceptional advantages owing to the network of rivers and canals which intersect the city in all directions and which can be navigated by tugs and lighters of considerable size. The necessity of railway connection between the main harbour and the city, however, is becoming more and more apparent and the relative merits of the northern route of 6½ miles from Umeda station on the Tokaido Railway and the southern route of 4½ miles from Imamiya station on the Kwansia Railway have formed the subject of much discussion in the local Press during the year. The question is still under consideration by the Government, but until it is decided and the line constructed it is hardly to be expected that foreign shipping will be attracted to the port to any great extent."

PRIESTMAN AWARDED "GRAND PRIX" AT BUENOS AIRES.—The modern Grab-Dredger, Excavator and Elevator, which has been so successfully operated in almost every climate had its merits recognized in a substantial way at the Buenos Aires Exposition where it was awarded the "Grand Prix" in competition with the machinery of the leading manufacturers of the world.

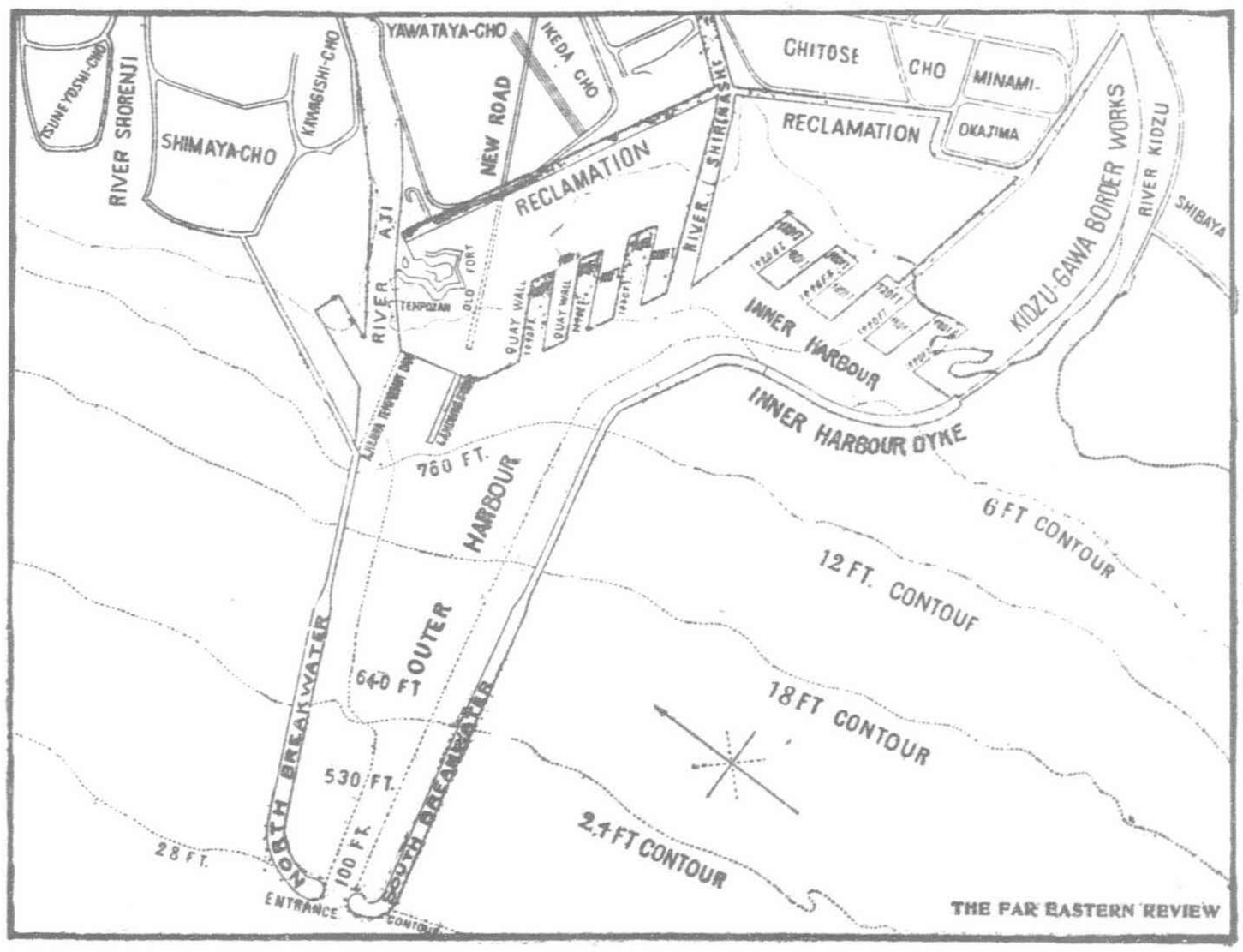
SHIPBUILDING, GENERAL MARINE AND FISHERIES

MANILA SHIPPING INCREASE.—The number of foreign vessels cleared during the year 1910 was 734, an increase of 146 over the previous year. The largest showing for any previous year was in 1905 when 699 vessels cleared for foreign ports. Custom House records show 4,069 entries from foreign ports in excess of the number for 1909.

CUT RATES FOR MANILA CARNIVAL.—Return ticket from Japanese ports good from February 1 to leave Manila March 15 for return passage has been arranged by the Pacific Mail and the Nippon Yusen Kaisha. The Philippine S. S. Co. has a flat rate from Hongkong of ₱50 to Manila and return.

NIPPON YUSEN KAISHA REDUCES RATES.—Beginning with the first of the year this company announced round the world trips at $525 gold via New York and also by way of Canada, $515 gold, where it was formerly $535 and $525 respectively.

THE MITSUBISHI COMPANY REORGANIZES.—This company has increased the number of its departments from four to seven for increased efficiency. As now arranged there are the departments of domestic affairs, shipbuilding, mining, banking, land, general affairs, and



PLAN OF THE OSAKA HARBOR IMPROVEMENTS

business. Mr. Toyokawa has succeeded to the position of Manager vice Mr. Shoda, retired, and Mr. Mimura has succeeded to the position of assistant manager formerly occupied by Manager Toyokawa.

CANADA'S NAVY.—Preliminary expenses to the amount of $3,000,000 has been appropriated for the preliminary expenses of establishing the Canadian Navy Department and the first vessel of the new navy to fly the flag in the Pacific will be the Rainbow which will serve as a training ship on the British Columbian coast and have some practice in running down poachers. Four cruisers and six destroyers will be the nucleus of the navy. They will be built in Canada. Docks have been subsidized for the purpose. The Pacific naval station of the Canadian government is at Esquimaux. The navy is entirely under the control of the Canadian Government.

SALVING AND WRECKING BY W. C. JACKS.—Several interesting lectures on this subject were given by Mr. Jacks before the Institute of Engineers and Shipbuilders covering the lecturer's experience in the raising of the French Cruiser "Sully" in Eastern waters and the sunken Spanish warships in Manila Bay.

THE HONGKONG AND SOUTH CHINA STEAM FISHERIES CO.—At the statutory meeting of this company held last month the charman reported that the new steam trawler ordered from Messrs. Smiths Dock Co. in Middlesborough last August would arrive and begin operations by March, 1911. The vessel will be known as the Hoi Fung. It is the purpose of the company to increase the number of trawlers as the business develops.

THE HAMBURG-AMERICA LINE.—Besides the leviathan of 60,000 tons being constructed for the Atlantic this company is constructing four freighters of 12,000 tons each for the East Asiatic trade.

THE NIPPON YUSAN KAISHA.—The profits for the half year ended Sept. 30 amounted to Yen 4,298,742 compared with yen 3,703,491 for the previous term. A special reserve fund was established to cover the amount of annual reduction in subsidies and the sum yen 1,073,431 was set aside for this purpose and yen 117,194 added to General Reserve bringing it up to yen 2,980,860 besides paying a dividend of 10% per annum and carrying forward yen 856,400 to next account. The company's capital liabilities amount to yen 22,000,000 and its assets, yen 53,750,000. Its fleet comprises 69 steamers with an aggregate displacement of 281,223 tons and a value of yen 28,561,000.

HONGKONG STEAM TRAWLER REGULATIONS.—Provision has been made by the Government whereby steam trawlers may elect to pay monthly rates in lieu of light dues as follows: Less than 50 tons net register, $180 per annum; 50 to 100, $270; 100 to 150, $450, 150 to 200, $630; 200 to 250, $810; 250 to 300, $1,000. They are prohibited from operating within the three mile limit.

THE YOKOHAMA DOCK COMPANY.—A third drydock added to this company's plant was opened the latter part of November. It cost yen 430,000. The dimensions are: length 481 feet; entrance width, 68 feet; depth on blocks 22 feet. Two large pumps and one small pump were installed.

THE SABATH STEAMSHIP CO., LTD.—This company showed a profit of $7,596.29 for the year ended June 30, 1910, and at the meeting held November 29 a dividend of 7.5% was ordered paid and a balance of $96 carried forward. This company is capitalized at $100,000 and owns a fleet of four vessels operating in the Borneo trade. The South Philippines S. S. Co. also paid a dividend of 7.5%.

THE PENINSULAR AND ORIENTAL S. N. CO. LTD.—This company announced a dividend for the six months of 5% on preferred, 6.5% on deferred and a bonus of 3% making a total for the term of 13% on deferred stock and a distribution of 9% on paid up capital for the year.

THE CHINO-SIAM S. N. Co. LTD.—The first year's operations of this company show a loss of Ticals 271,778. The capital stock of this company is Ticals 3,000,000 with Ticals 1,077,400 paid up.

A GERMAN LEVIATHAN.—The Stettin Vulcan Works of Hamburg is constructing for the German-American company the largest vessel in the world. Its dimensions follow:

Length, 881 ft.; beam, 100 ft.; gross tonnage, 60,000.

CHINA-JAPAN S. S. Co.—This company declared its first dividend of 6% per annum for the half year last month. The vessels have been engaged in the Yangtze carrying trade for four years.

NEW VESSELS FOR BANK LINE—The steamer Luveric of 11,000 tons displacement, one of the two new steamers for the Oriental trade, sailed from New York in December. Her sister ship, the *Oteric*, will be launched this month from Russel & Co.'s yards in Glasgow. These vessels are 475 feet long, 57 feet beam, and have a depth of 29 feet. They have first class accommodation for 25 and steerage 500.

MINES, MINERALS AND THE METAL, TRADE, MACHINERY, ETC.

SUGAR MILL FOR FORMOSA.—The Dyer Company of Cleveland is reported to have secured the contract for the installation of a plant for the Taihoku Sugar Co.

BURMA OIL Co.—This company declared an interim dividend of 10% on ordinary shares.

F. M. S. TIN.—Tin was quoted at $86.40 St. Cur. in Singapore last month. The export for the eleven months ended November amounted to 638,500 piculs, excluding Perak and Pahang, as against 698,000 for 1909.

RAUB REPORT.—The total output for the four weeks ended December 3rd was 528 ounces from 4,674 tons of ore crushed.

THE TONGKAH HARBOR TIN DREDGING Co.—The sum paid the Government of Siam for the relinquishment of the requirement to make a channel in the harbor is reported to be £35,000.

THE BURMA MINES LTD.—The total output of lead produced in October was 1,507 tons containing 6,784 ounces of silver.

THE RASA TIN MINING Co. LTD.—This company has been formed with a capital of $250,000, Straits Currency, to purchase and develop the deposits included in a dredging concession on the Selangor River near Rasa. The sum of $105,000 was paid the owners.

THE SIAMESE TIN SYNDICATE.—This company owns two promising properties, the Bandon and the Ngnow, the former having been tested and a dredge ordered for the latter. A dredge is in contemplation for the Bandon property.

RAWANG COAL SYNDICATE.—A company has been organized for £25,000 to develop deposits referred to in previous issues.

GOPENG TIN Co.—The profit for last year amounted to £28,730 out of which 7*s.* in dividends and bonus per share have been paid.

KINTA TIN MINES, LTD.—The report for the year ended June 30, 1910, shows a net profit of £30,340. A final dividend of 1*s.* per share has been paid making 30% for the year and leaving £5,049 to carry forward.

REDHILLS TIN MINING Co.—The profits for the year ended March 31, 1910, amounted to £4,362.

ULU PIAH TIN MINES. LTD.—The directors have announced an interim dividend of 10% and promise a final of 15%.

COMMERCIAL, FINANCIAL AND MISCELLANEOUS

JAPAN'S NATIONAL DEBT.—According to official reports the total outstanding is yen 2,620,709,000 of which 1,175,000,000 represents domestic and 1,445,700,000 foreign loans, the total being an increase of 38,000,000 compared with the previous year.

ILOILO'S INCREASE TRADE.—For the six months ended December 31, the total customs receipts amounted to ₱851,267 as against ₱764,563 during the corresponding period 1909.

SIAMESE BUDGET FOR 1910-11.—The estimates submitted call for a revenue of 64,250,000 Ticals and approximately the same expenditure. This is an increase of over Ticals 1,000,000 compared with 1909-10 although there was a balance over from the previous year of 71,079, while the estimates for 1911 allow for a balance of Ticals 558.

THE EWO COTTON SPINNING AND WEAVING Co.—This company has declared a dividend of Tls. 4 per share on ordinary shares and carried forward Tls. 8,914 from a total credit to profit and loss of Tls. 68,914.00.

PHILIPPINE SOCIETY OF ENGINEERS.—The following officers were elected for 1911:

President, C. G. Wrentmore; Vice-Psesident, H. P. Lennell; Secretary, E. R. Frisby; Treasurer, S. O. Scudder; and Trustee, L. F. Goodale for three years, H. L. Higgins for two years and Warren D. Smith for one year.

CHINA'S BANK NOTES.—The Taching Bank has been instructed to enter into a contract with the American Bank Note Company for the printing and notes of $100, $50, $10 and $1 denominations for early circulation.

CHINESE-AMERICAN UNDERTAKING.—According to the Chinese press, arrangements have been under way to establish a Chinese-American bank, a Chinese-American museum and a Chinese-American S. S. Co. with joint American and Chinese capital.

THE SHANGHAI CENSUS.—The total population, according to the latest official census, is 501,541, of which 13,536 are foreigners. This is an increase in foreign population of 2039, and Chinese of 35,289 compared with 1905. The numbers of Britishers are 4,465 an increase of 752; Americans, 940, a falling off of 50; Japanese, 3,361, an increase of 1,204; Portuguese, 1,495, an increase of 164; and Germans, 811, an increase of 26; French, 330, a falling off of 63 and also a falling off in the Russian, Spanish, Italian, Danish, Austro-Hungarian, Norwegian and an increase in the Swedish of 57.

FORMOSAN PINEAPPLE INDUSTRY.—The total output of the two canneries operating in Central Formosa will reach 100,000 tins this year. Two crops are grown annually.

THE ZAMBOANGA FAIR.—Great preparations are being made for the exposition to be held from February 7 to February 14. This is an effort to make a comprehensive presentation of Mindanao development.

RUBBER DIVIDENDS.—Highlands and Lowlands have declared a third interim dividend of 10%; Ceylon Land and Produce paid a final of 22.5% making 30% for the year. The Seking Rubber Co. paid its first dividend of 6%.

THE UNITED ASBESTOS ORIENTAL AGENCY.—The balance to the credit of the profit and loss account at the end of the year was $8,411.43. Of this $342.54 was brought forward from last year's account. The dividend of 15 per cent will absorb $5,940.00. The General Managers receive $2,00,00, and $471.43 carried over to the new account.

NEW FORMOSAN TEA COMPANY.—The Japan-Formosa Tea Company, capital $500,000 gold, has been formed by Japanese to grow black tea for the eastern Russia market. The Formosan government has donated to it the tea experimental plantation at Ampingchin, given it a $15,000 annual subsidy, and guarantees 6 per cent interest on the part of the capital paid up ($125,000) for seven years.

CHINA TEA TRADE.—According to Customs report, China exported in 1909 tea of all kinds to the weight of 1,498,443 piculs. This compares with the following figures for nine previous years:—1,384,324 piculs in 1900; 1,157,993 in 1901; 1,519,211 in 1902; 1,677,530 in 1903; 1,451,429 in 1904; 1,369,298 in 1905; 1,404,128 in 1906; 1,610,125 in 1907; and 1,576,136 in 1908.

Of the tea exported in 1909 the largest quantity found its way to Russian Pacific ports—521,289 piculs. No less than 249,786 piculs were exported to Russia and Siberia by the land frontier, while the United States (including Hawaii) was the next biggest customer, taking 211,983 piculs. Hongkong claimed 103,287 piculs and Great Britain 87,239.

JAPAN'S SILK TRADE.—Altogether 55,178 bales of raw silk were exported from Yokohama to various foreign countries during the past six months from January 1 to June 30 this year says the *Commerce Journal*. Of the figures 38,286 bales were carried by American vessels, 2,227 bales by British vessels, 8,615 bales by French vessels and 60,500 bales by German vessels. The largest quantity handled by the export merchants was 11,836 bales for America by the Mitsui Bussan Kaisha, followed by 10,280 bales for America, Germany and France by the Kiito Gomei Kaisha. The shipments of waste silk from Yokohama during the first half of this year amounted to 12,659 bales. During the term, all the shipments of waste silk were made.

LONDON METAL MARKET

The following are (December 9) prices of metals:—

COPPER.	£	s.	d.		£	s.	d.
*Tough cake and ingot	60	10	0	..	61	0	0
*Best selected	60	10	0	..	61	0	0
*Electrolytic	61	10	0	..	62	0	0
*Sheets and sheathing	72	0	0	..	—		
*Flat bottoms	75	0	0	..	—		
STANDARD †Cash	56	17	6	..	—		
STANDARD †Three Months	57	12	6	..	—		
*Copper tubes, seamless per lb.	0	0	8¾	..	—		
*Lake	62	0	0	..	63	0	0

* Less 3½ per cent. † Net.

ALLOYS.						
BRASS: Wire	0	0	6¾	..	—	
,, Tubes (solid drawn)	0	0	6⅞	..	—	
,, Sheets	0	0	7	..	—	
TIN.						
English ingots, f. o. b.	174	0	0	..	175	0	0
,, bars	175	0	0	..	176	0	0
,, refined	176	0	0	..	177	0	0
Straits... Cash	174	15	0	..	—		
Straits... Three months	175	0	0	..	—		
Australian spot		—		..	—		
Banka (in Holland) Cash	175	0	0	..	—		
Banka (in Holland) Three months	174	16	8	..	—		
LEAD.						
Spanish or soft foreign	£13	3	9	..	13	5	0
English pig, common	13	6	3	..	13	8	9
,, L. B	13	15	0	..	—		
,, sheet and bar lead	14	15	0	..	—		
,, pipe	15	5	0	..	—		
,, red	15	15	0	..	—		
,, white	18	5	0	..	—		
,, patent shot	16	5	0	..	—		
SPELTER.						
Silesian ordinary brands	23	17	6	..	24	0	0
,, special brands	24	0	0	..	24	10	0
English Swansea	25	0	0	..	25	10	0
Sheet zinc	29	5	0	..	—		
ANTIMONY.						
Antimony	27	0	0	..	29	0	0
,, Crude	12	0	0	..	13	10	0
,, Ore (basis 50%)	7	0	0	..	8	0	0
QUICKSILVER.						
Flasks, 75 lbs. warrants	8	0	0	..	—		

ALUMINIUM.	Per ton.				Per ton.		
98-99 per cent.	69	0	0	..	70	0	0
NICKEL.	Per ton.				Per ton.		
98-99 per cent. guaranteed	167	10	0	..	171	0	0

PLATINUM.

Per oz. Troy, 160s.; nominal and subject to negotiation.

The Mining Journal.

FAR EASTERN STOCKS AND QUOTATIONS

Courtesy of Messrs. Kadoorie & Co., Hongkong, December 30, 1910.

STOCK.	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	AT WORKING ACCOUNT	DATE	LAST DIVIDEND.	Approximate Yield per cent per annum at Present Quotation	CLOSING QUOTATIONS
BANKS.											
Hongkong & Shanghai Banking Corporation	1865	$15,000,000	120,000	$125	$125	g £1,500,000 e $16,000,000 i $250,000	$2,029,390	31-6-10	£2. for first half year ending 30-6-10, @ ex 1/9⅜ = $22.456	5%	$900 sales £86|-
National Bank of China, Ld.	1891	£699,475	10) 99,925	£7	£6	c £4,009 $400,000	$34,167	31-12-09	$2 (London 3|6) for 1903	....	$80 buyers
MARINE INSURANCES.											
Canton Insurance Office, Ld.	1881	$2,500,000	10,000	$250	$50	$1,600,000 j $268,696 u $305,181	Nil.	31-12-08	$15 for 1909	8½%	$185 sales
North China Insurance Co., Ld.	1903	£150,000	10,000	£15	£5	g £125,000 e Tls. 225,000 u Tls. 368,644 f Tls. 137,308	Tls. 205,719	30-6-10	Final dividend of 7½% for 1909 making 15% in all	5%	Tls. 140 sales
Union Ins. Society of Canton, Ld.	1867	$3,100,000	12,400	$250	$100	e $3,000,000 g £90,000 f $287,984 j $1,449,735 u $713,985	2,552,545	31-12-09	Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909	6%	$827½
Yangtsze Ins. Association, Ld.	1889	$1,200,000	12,000	$100	$60	$1,000,000 j $371,802 £169,861	$797,602	31-12-09	$12 for year ending 31-12-08 and interim of $3 on account of 1909	7¾	$19[illegible]
FIRE INSURANCES.											
China Fire Ins. Co., Ld.	1870	$2,000,000	20,000	$100	$20	$1,000,000 x $550,348 f $61,168	$438,406	31-12-09	$6 and bonus $2 for 1908	7%	$118 buyers
Hongkong Fire Ins. Co., Ld.	1868	$2,000,000	8,000	$250	$50	$1,460,000 j 81,153	$426,218	31-12-09	$27 for 1908	8%	$362½ buyers
SHIPPING.											
China & Manila Steamship Co., Ld.	1882	$750,000	1) 30,000	$25	$25	i $57,734	Dr $3,777	31-12-09	$4% for 1906	....	$8 sellers
Douglas Steamship Co., Ld.	1883	$1,000,000	20,000	$50	$50	$230,000 i $100,589	Nil.	30-6-10	$2½ for year ending 30-6-1908	....	$20 sellers
Hongkong, Canton & Macao Steamboat Co., Ld.	1865	$1,200,000	80,000	$15	$15	e $250,000 d. i. $630,000 f $130,545 $ 19,106	$18,026	30-6-10	Dividend of $1½ for half year ending 30.6.1910	8½%	$30 sales
Indo-China Steam Navigation Co., Ld. (Preferred)	1882	m £600,000	2) 60,000	£5	£5	i £138,100	£15,162	31-12-08	3% = 3|- on Preferred shares only for 1910	....	$56 sellers
Do. Do. (Deferred)			2) 60,000								
"Shell" Transport & Trading Co., Ld.	1898	£ 2,000,000	2,000,000	£1	£1	£120,000 i £1,000,000	£205,868	31-12-09	Final div. of 2|6 per share (coupon 14) making in all 4|6 per share for 1909, and an int. div. of 1s. per share on % for 1910	5%	81|- sellers £11 buyers
"Star" Ferry Co., Ld.	1898 1900	$200,000	10,000 10,000	$10 $10	$10 $5	i $6,500 $55,830	$1,159	30-4-10	A dividend of 7% and bonus of 5% making 12% for year ending 30.4.1910	5% 6%	$23 $12½
REFINERIES.											
China Sugar Refining Co., Ld.	1878	$2,000,000	20,000	$100	$100	e $520,000 r $83,620	Dr. $8,090	31-12-09	$5 for half year ending 30-6-1910.	6%	$124 sellers
Luzon Sugar Refining Co., Ld.	1882	$700,000	7,000	$100	$100	none	Dr. $101,851	31-12-09	$3 for 1897	....	$122 sellers
MINING.											
Chinese Engineering & Mining Co., Ld.	1901	£1,000,000	1,000,000	£1	£1	d £215,000 h £12,289	....	..	Final div. of 1|6 for the year 1910 making 15% (coupon 15)	9%	Tls. 15
Headwaters Mining Co.	1908	₱600,000	28) 600,000	₱10	₱10				First year		₱10
Raub Australian Gold Mining Co., Ld	1892	£200,000	150,000 50,000	£1 £1	18-10 £1	£4,873	Dr.	..	1|2 per share, 13th div.	5%	$3
Oriental Consolidated Mining Co. Ld.	....	g $5,000,000	500,000	g $10	$10	none	....	..	Final of gold $0.65 for 1909 in all g. $1.15	..	32|6
DOCKS, WHARVES AND GODOWNS											
Fenwick (Geo.), & Co., Ld.	1889	$450,000	z 18,000	$25	$25	$25,275	Dr $8,460	31-12-09	$1½ for year ending 31-12-06	....	$5
Hongkong & Kowloon Wharf & Godown Co., Ld.	1886	$3,000,000	60,000	$50	$50	$550,000 i $31,993 i $40,000	$4,848	31-12-09	$2½ for 1909	4½%	$52½ buyers
Hongkong & Whampoa Dock Co., Ld.	1866	$2,500,000	50,000	$50	$50	i $88,214 v $221,000	$148,940	30-6-10	3% for half year ended 30-6-1909	..	$53
Shanghai Dock & Engin'g Co., Ld.	1906	Tls. 5,570,000	13) 55,700	Tls. 100	Tls. 100	Tls. 1,000,000	....	..	Final of Tls. 3½ making Tls. 6 in all for year 30-4-1910	8%	Tls. 68
Shanghai & Hongkew Wharf Co., Ld.	1902	Tls. 3,600,000	36,000	Tls. 100	Tls. 100	b Tls. 697,257 r Tls. 50,000 e Tls. 125,000	....	..	Interim of Tls. 3 for 1910	7	Tls. 95
LANDS, HOTELS AND BUILDINGS.											
Anglo-French Land Investment Co., Ld.	1906	Tls. 2,500,000	3) 25,000	Tls. 100	Tls. 100	Tls. 35,000	Tls. 4,314	29-2-09	Tls. 6 for year ending 29-2-10	5¾	Tls. 97
Central Stores, Ld.	....	$751,845	16) 50,123	$15	$15	n. $1,000	$1,000	31-12-08	8% for 1909	....	$11 sellers
Hongkong Hotel Co., Ld.	1866	$600,000 $400,000	12,000 8,000	$50 $50	$50 $25	$648,975 r $20,000	$21,477	30-6-10	$3 on old shares, $1.50 on new shares, for half year ending 30-6-10	5½%	$99 $65 sellers
Hongkong Land Investment & Agency Co., Ld.	1889	$5,000,000	50,000	$100	$100	e $250,000	$27,971	31-12-09	Interim of 3½ for 1910	7%	$99½ sellers
Humphreys' Estate & Finance Co., Ld.	1887	$1,500,000	150,000	$10	$10	i $226,945 20) $25,856	$5,471	31-12-09	45 cents for 1909	5¾%	$6½ buyers
Kowloon Land & Bldg. Co., Ld.	1889	$300,000	6,000	$50	$30	none	$269	31-12-09	$2½ for 1909	8%	$33½
Shanghai Land Investment Co., Ld.	1888	Tls. 3,900,000	78,000	Tls. 50	Tls. 50	Tls. 1,523,045 e Tls. 300,000	Tls. 63,969	31-12-09	Interim of Tls. 3 for 1910	6¾	Tls. 100
West Point Bldg. Co., Ld.	1889	$625,000	12,500	$50	$50	none	$1,958	31-10-09	Interim of $1.80 for 1910	8¾	$39 buyers
COTTON MILLS.											
Ewo Cotton Spinning & Weaving Co., Ld.	1895	Tls. 1,000,000	5) 20,000	Tls. 50	Tls. 50	Tls. 250,000	Tls. 10,991	31-10-09	Tls. 11 for year ended 31-10-09	8½	Tls. 85
Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld.	1901	$1,250,000	125,000	$10	$10	e 20,000	$26,297	30-7-09	50 cents for year ending 31-7-08	....	$4½ buyers

FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

STOCK.	WHEN ESTABLISHED	CAPITAL.	NO. OF SHARES.	VALUE	PAID UP.	RESERVE	AT WORKING ACCOUNT.	DATE.	LAST DIVIDEND.	Approximate Yield per cent. per annum at Present Quotation.	CLOSING QUOTATIONS
International Cotton Manufacturing Co., Ld.	1895	Tls. 750,000	6) 10,000	Tls. 75	Tls. 75	Tls. 175,000	Tls. 8,372	30-9-09	Tls. 7½ for year end. 30-9-09 (10%)	10%	Tls. 46
Laou-kung-mow Cotton Spinning & Weaving Co., Ld.	1895	Tls. 800,000	8,000	Tls. 100	Tls. 100	none	Tls. 4,829	31-12-08	Tls. 6 for 1909	10%	Tls. 48½
Soy Chee Cotton Spinning Co., Ld	1895	Tls. 1,000,000	2,000	Tls. 500	Tls. 500	*f* Tls. 31,173	Tls. 31,173		Tls. 35 for 1909	17%	Tls. 245
MISCELLANEOUS											
Bell's Asbestos Eastern Agency, Ld.	1895	£5,377.10s.	11) 8,604	12/6	12/6	£1,500	£797	31-12-09	15% for 1909		$8 sellers
China-Borneo Co., Ld.	1903	$720,000	8) 60,000	$12	$12	$40,000	Nil.	31-12-08	5% for 1909	6½	$9 sellers
China Light & Power Co., Ld.	1901	$300,000	50,000	$5	$5	none	$50,242	31-7-10	60 cents for year ending 28-2-06		95 cts. buyers
Do. do. Special Shares	1907		17)50,000	$1	$1						
China Provident Loan & Mortgage Co., Ld.	1898	*a* $1,250,000	7) 125,000	$10	$10	$80,000	$2,602	31-12-09	80 cents for 1909	10%	$7 buyers
Dairy Farm Co., Ld.	1896	$300,000	40,000	$7½	$6	*l* $10,000 $10,000	$1,850	31-7-09	$1.20 for year ending 31-7-09	%	$17½
Green Island Cement Co., Ld.	1897	$4,000,000	400,000	$10	$10	$14,000	$4,290	31-12-09	Interim of 15 cts. per share for 1910	15	$3 buyers
H. Price & Co., Ld.	1907	$120,000	19) 15,000	$10	$10	none	$1,923.87	31-12-09	14% viz $1.40 for 1909	12%	$12
Hongkong Electric Co., Ld.	1889	$600,000	60,000	$10	$10	none	$11,798	28-2-10	A dividend of $1.20 per share and a bonus of 10 cts. per share for year end. 28-2-10.	6½	$20
Hongkong Ice Co., Ld.	1881	$125,000	5,000	$25	$25	*k* $150,000	$12,662	31-12-09	Interim of $2 pershare for 1910	----	$120 buyers
Hongkong Rope Manufacturing Co., Ld.	1883	$600,000	$60,000	$10	$10	$40,000	$9,176	31-12-09	Interim of $1 per share for 1910	9	$18 sellerss
Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat	1902	Gs. 2,500,000	25,000	Glds. 10	Glds. 10	21 Tls. 547,500 Tls. 547,500 *f* Tls. 63,914	Tls. 316,682	31-12-08	3rd Interim Div. of Tls. 15 making in all Tls. 37½ for 1910	5	Tls. 100
Peak Tramways Co., Ld.	1907	$750,000	25,000	$10	$10	$20,000	$3,014	30-4-10	80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-10	5½ 5	$13 sellers $1½ sellers
Do. (New)			50,000	$10	$10						
Philippine Co., Ld.	1904	$750,000	75,000	$10	$10	none	Ps. 2,875	31-12-09	None	----	$8
Robinson Piano Co., Ltd.	1900	$200,000	22) 4 000	$50	$50	$5,000	$61,138	31-8-08	6% for ½ year ending 30.9.07	----	$50
Shanghai-Sumatra Tobacco Co., Ld.	1902	Tls. 600,000	9) 30,000	Tls. 20	Tls. 20	Tls. 24,820 *w* Tls. 100,000	Tls. 5,250	31-10-08	No dividend this year	2	Tls. 102½
South China Morning Post, Ld.	1903	$150,000	6,000	$25	$25	none	*Dr.* $31,096	31-8-09	None	----	$25
Steam Laundry Co., Ld.	1902	$100,000	20,000	$5	$5	none	$127,86	31-5-10	50 cents for year ending 30-5-10	8	$5½ buyers
Union Waterboat Co., Ltd.	1905	$500,000	15) 50,000	$10	$10	*w* $11,956	..	31-12-08	60 cents for year-end. 31-12-1908	6½	$6½ b. and sales
United Asbestos Oriental Agency, Ld.	1896	$100,000	10,000	$10	$4	$46,000	$471	31-5-10	15% per ordinary share for year ended 31-5-10	5	$11½ sellers
Watkins, Ltd.	1899	$100,000	10,000	$10	$10	none	$19,41	31-12-09	3½ for 1909		$3 sellers
Watson (A. S.) & Co., Ld.	1886	$900,000	90,000	$10	$10	$300,000 *e)* $25,000	$1,776	31-12-09	3% for 1909	----	$6
Weismann Limited	1904	$30,000	3,000	$10	$10	$12,250	$67	31-7-10	10 per cent for year endg. 31.7.10.	10%	$12 buyers
William Powell, Ld.	1901	$105,000	15,000	$7	$7	none	$782	30-6-09	30 cents making 80 cents for year ending June 30th 1906	----	$2½
Societe des Pulpes et Papeteries du Tonkin		660,000	13,200	50 Haiphong	35 Currency	....	..	....	First year	....	$36 (Hk.Cy.) sel
RUBBERS											
Allagar Rubber Estates, Ltd.	1909	£85,000	29) 750,000	2/-	2/-	....	....	....	----------	....	5/-
Anglo-Malay Rubber Co., Ltd.	1905	£150.000	1,500,000	2/-	2/-	....	....	....	25% interim	....	24
Balgownie Rubber Estate, Ltd.	1905	†† $200,000	‡‡ 20,000	†† $1	†† $1	$7,400	$11,205	31-3-09	40% interim	....	$10¾ [Singapore]
Castlefield Rub. Ld., [fully pd.]	1906	£35,000	27) 32,650	£1	£1	none	....	....	----------	....	119
Damansara (Selangor) Rub. Co.	1906	£110,000	25 110,000	£1	£1	nil.	£2,220	31-12-08	50% for 1909	....	152/6
Golconda Malay Rubber Co.	1907	£80 000	26 80,000	£1	£1	nil.	nil.	....	25% interim	....	102/6
Highland & Lnd. Para R. Co.	1906	£310,000	=181,454	£1	£1		£8,784	....	35% for 1909	....	107/6
Do. Do. [fully paid]			123,546	£1	15/-						
Do. Do. [partly paid]											
Kamuning (Perak) Rb. & Tin Co.	1909	£200,000	950,000	2/-	1/-	nil.	nil.	....	----------	....	5/- prem.
do do A Shares											
do do B Shares			105,000	£1	£1						
Kuala Lumpur Rubber Co., Ltd.	1906	£180,000	180,000	£1	£1	£4,000	1,82	....	75% interim	....	165/-
Linggi Plantations, Ltd. (ord.)	1895	£100,000	×900,000	2/-	2/-	....	....	....	150% interim	....	47/3
Do. Do. (7% pref.)	Reconst		10,000	£1	£1	....	....	....	7% for 1909	....	
Ledbury Rubber Estates Ltd.	1908	£125,000	§§ 60,000	£1	£1	....	....	....	17½% for 1909	....	65/-
Do. Do. (contrib.)			40.000	£1	7/6						
Sagga Rubber Co. Ld.	1903	£20,000	24) 2,000	£1	£1	nil.	nil.	....	25% interim	....	270/-
Sandycroft Rubber Co.	1904	$100,000	50,000	$2	$2	$20,000	$1,275	31.1.08	100% interim	....	$26
Sekong Rubber Co., Ld.	1908	£80,000	27) 80,000	£1	12/6	nil.	nil.	....	----------	....	11/3 prem.
Shelford Rubber State Ld.	1906	£65,000	65,000	£1	£1	nil.	£836	31.12.08	7½% for 1909	....	73/9
Singapore & Johore Rb. Co., Ld.	1903	$250,000	2,500	$2	$2	nil.	nil.	....	25% interim	....	$13
Sungei Choh. Rb. State Co., Ld.	1907	£45,000	45,000	£1	£1	nil.	nil.	....	----------	....	92/6
Sungei Kapar Rubber Co.	1906	£110,000	23) 110,000	£1	£1	nil.	£3,448	31.12.08	37½% for 1909	....	14/-
Toerangie Rubber Co.	1910	30) £100,000	51,000	£1	7/6	....	....	....	First year	....	par.

LOANS AND DEBENTURES.	AGENTS FOR THE LOAN.	AMOUNT OF LOAN.	PAR VALUE.	OUTSTANDING BONDS.	WHEN PAYABLE.	CLOSING QUOTATIONS.	
China Government, 7 per cent. Silver Loan 1886 E.	Hongkong & Shanghai Banking Corporation.	Tls. 767,200	Tls. 250	1914	Mar. 31st and Sept. 30th each year until Mar. 31st, 1917	par.	Plus interest
Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡		$750,000	$500	§ all	Half yearly, June 30th and December 31st	par	
Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902		Tls. 543,900	Tls. 100	.....	Half yearly, June 30th and December 31st	Tls. 103½	
Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903		Tls. 500,000	Tls. 100	.....	Half yearly, January 1st and July 1st	102½	
Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 †	----------	£500,000	¶	£431,960	Half yearly, June 30th and December 31st	par.	
International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901	Russo Chinese Bank	Tls. 500,000	Tls. 100	||	Half yearly, March 31st and Sept. 30th	Tls. 97½.	

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange and Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 50,000.00.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2,350 shares unissued.
28 25,000 shares unissued.
29 10,000 shares unissued.
30) 3,700 fully paid vendor shares and an option of 5,000 shares at par for 5 years granted to option holders.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
|| Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
Dr. Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

ADDITIONAL SHANGHAI SHARE QUOTATIONS

December 30, 1910

STOCK	CLOSING QUOTATIONS	HIGHEST AND LOWEST PRICES DURING THE WEEK	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	LAST DIVIDEND	WHEN PAID
Vulcan Iron Works, Limited	Tls. 10		Tls. 500,000	1,000	Tls. 500	Tls. 500	—	Tls. 50 for year ended 31.8.06	Nov. 1, 1906
Yangtsze Wharf & Godown Co. Limited	Tls. 195		Tls. 250,000	2,500	Tls. 100	Tls. 100	Tls. 50,000	Tls. 15 for 1909	April 1, 1910
Wei-hai-wei Land & Building Co., Limited	Tls. 8 nominal		Tls. 91,850	3,674	Tls. 25	Tls. 25	—	Interim of $2.00 for 1909	Aug. 8, 1909
Anglo-German Brewing Co., Limited	$80 sellers		$100,000	4,000	$100	$100	none	5% for 1909	Mar. 12, 1910
Butler Tile Works, Limited	Tls. 23		Tls. 60,000	1,200	Tls. 50	Tls. 50	—	Tls. 3 for year ending 31.3.09	June 8, 1909
Major Bros., Limited	Tls. 40		Tls. 300,000	6,000	Tls. 50	Tls. 50	—		—
Oriental Ice Company, Limited	Tls. 25		Tls. 130,000	2,600	Tls. 50	Tls. 50	—	First year	—
Scharffs Oil and Bone Mills, Ltd	Tls. 40		Tls. 200,000	4,000	Tls. 50	Tls. 50	—	First year	—
Shanghai Ice Company, Limited	Tls. 13		Tls. 200,000	8,000	Tls. 25		—	6 for 1909	Mar. 14, 1910
Dunning & Company, Limited	$33 sales		$100,000	2,000	$50	$50	—	$5 year ending 28.2.08	Apr. 15, 1908
J. Llewellyn & Co., Limited	$60 nominal		$72,000	1,200	$60	$60	—	7.20 for 1909	May 1, 1910
Lane, Crawford & Company	$120		$250,000	2,500	$100	$100	—	10% for year 1909	Apr. 28, 1910
S. Moutrie & Company, Limited	$20		$250,000	5,000	$50	$50	—	$2 for year ended March 31, 1909	June 18, 1909
Weeks & Company, Limited	$23		$400,000	20,000	$20	$20	$40,000	Final of 6% making 10% for 1909	June 1, 1910
Dominion Rubber Co., Limited	Tls. 30		Tls. 225,000	22,500	Tls. 10	Tls. 4	—	First year	—
Senawang Rubber Estates Company, Limited	Tls. 50		Tls. 250,000	2,500 }	Tls. 100 Tls. 100	Tls. 100 Tls. 75	—	20% for year ending May 31 1910	May 9, 1910
Tebong Rubber and Tapioca Estate, Limited	Tls. 20		£76,000	76,000	£1	£1	—	50 cents for 1909	Sept 2, 1910
Shanghai Mercury, Limited	Tls. 55		Tls. 105,500	2,100	Tls. 50	Tls. 50	—	Final of 6% making 16% year 1909	June 22, 1910
Shanghai Mutual Telephone Co., Limited	Tls. 64		Tls. 675,000	13,500	Tls. 50	Tls. 50	—	Tls. 3 for 1907	June 28, 1909
China Export, Import & Lumber Company, Limited	Tls. 75 sales		Tls. 350,000	500	Tls. 100	Tls. 50	—	5 p. c. for 1909	May 1, 1910
China Printing Co., Limited	Tls. 50		Tls. 750,000	1,500	Tls. 50	Tls. 50	—	7% 1908	Apr. 18, 1909
Hirano Mineral Water Co., Ltd.	Y. 10		Y. 125,000	5,000	Y. 25	Y. 25	—	10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29	Apr. 26, 1909
Shanghai Electric & Asbestos Company, Limited	$21 sellers		$125,000	5,000	$25	$25	—	8% for year ended Feb. 28, 09	June 21, 1909
Shanghai Electric Construction Company, Limited	£6[5	£11	£320,000	32,000	£10	£10	—	First year	—

DEBENTURES

LOANS		PRICE—PLUS ACCRUED INTEREST	AMOUNT OF LOAN	OUTSTANDING	NOMINAL VALUE	RATE OF INTEREST	WHEN PAYABLE
Shanghai Municipal Debentures	1892	Tls. 97	Tls. 45,400	Tls. 45,400	Tls. 100	5 %	June & Dec.
do	1893	,, 100	,, 46,200	" 32,000	" 100	5½ ,,	Do
do	1894	,, 106	,, 60,000	" 60,000	" 100	6 ,,	Do
do	1895	,, 97	,, 107,600	" 32,600	" 100	5 ,,	Do
do	1896	,, 97	,, 117,300	" 131,800	" 100	5 ,,	Do
do	1897	,, 97	,, 268,400	" 268,400	" 100	5 ,,	Do
do	1898	,, 106	,, 60,000	" 60,000	" 100	6 ,,	Do
do	1900	,, 100	,, 81,700	" 81,700	" 100	5½ ,,	Do
do	1901	,, 106	,, 77,000	" 200,000	" 100	6 ,,	Do
do	1902	,, 106	,, 145,000	" 150,000	" 100	6 ,,	Do
do	1903	,, 106	,, 430,500	" 490,500	" 100	6 ,,	Do
do	1904	,, 106	,, 164,500	" 214,500	" 100	6 ,,	Do
do	1905	,, 106	,, 285,900	" 820,000	" 100	6 ,,	Do
do	1907	,, 106	,, 500,000	" 250,000	" 100	6 ,,	Do
do	1908	,, 250 scarce	,, 650,000	" 354,400	" 250	6 ,,	Do
do	1909	,, 97½	,, 300,000	" 250,000	" 100	6 ,,	Do
Chinese Imperial Government Loan	1886 E	,, 102½	,, 354,400	"	" 100	7 ,,	Mar. & Sept
Shanghai Land Investment Co., Debentures	1892	,, 95	,, 250,000	" 250,000	" 100	6 ,,	May & Nov.
do	1894	,, 104	,, 250,000	" 250,000	" 100	6 ,,	Mar. & Sept.
do	1896	,, 104	,, 250,000	" 250,000	" 100	5 ,,	June & Dec.
do	1900	,, 95	,, 250,000	" 250,000	" 100	6 ,,	April & Oct.
do	1901	,, 104	,, 250,000	" 100,000	" 100	6 ,,	June & Dec.
do	1901	,, 104	,, 100,000	" 400,000	" 100	5 ,,	May & Nov.
do	1902	,, 104	,, 400,000	" 250,000	" 100	6 ,,	June & Dec.
do	1905	,, 104	,, 250,000	" 815,900	" 100	6 ,,	Do
Shanghai Waterworks Co., Debentures	1909	,, 104	,, 865,900	"	" 100	6 ,,	April & Oct.
Shanghai Gas Co., Debentures	1909	,, 106	,, 775,000	" 800,000	" 100	5 ,,	Do
Shanghai and Hongkew Wharf Co., Debentures	1902	,, 105 scarce	,, 1,000,000	" 799,800	" 100	6 ,,	June & Dec.
Astor House Co., Debentures	1905	,, 100	,, 750,000	" 500,000	" 100	7 ,,	Do
British Municipal Council, Hankow	1901	Sh. ,, 100	H'kow Tls 100,000	H'kow Tls 100,000	" 100	7 ,,	June & Dec.
Shanghai Club Debentures	1907	,, 100	Tls. 170,000	Tls. 170,000	" 100	6 ,,	Do
Country Club Debentures		,, 102½	,, 139,000	" 139,000	" 100	6 ,,	Do
do	1907	,, 102	,, 92,000	" 92,000	" 100	6 ,,	Do
Lane Crawford & Co., Debentures	1907	,, 105	,, 110,000	" 110,000	" 100	7 ,,	Mar. & Sept.
Anglo-French Land Debentures	1908	,, 102	,, 250,000	" 250,000	" 100	6 ,,	June & Dec.
Central Stores Ltd. Debentures	1908	,, 102½	,, 250,000	" 250,000	" 100	8 ,,	Do
Shanghai Mutual Tel. Co. Debentures	1909	,, 102½	,, 200,000	" 200,000	" 100	6 ,,	Do

SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, DECEMBER 30, 1910)

Date of Formation	Capital	Capital paid up	No. of Shares Issued	Issue Value	Paid up	Reserve	Last Dividend	Name	Buyers	Sellers
								MINING		
1903	$300,000	300,000	30,000	10	10	.....	10% interim	Belat Tin Mining Co., Ltd.	4.10	4.25
1907	$300,000	225,000	22,500	10	10	.....		Bruang Ltd.	6.25	6.75
1901	$600,000	600,000	60,000	10	10	25,000	6% for year ending 30-4-09	Bruseh Hydraulic Tin Mining Co., Ltd.	....	5.00
1907	$400,000	375,000	37,500	10	10	.....		Kanaboi, Ltd.	1.75	2.00
1901	£60,000	60,000	60,000	1	1	.....	6[- interim 1910	Kinta Tin Mines, Ltd.	16.00	16.50
1905	$150,000	99,000	9,900	10	10	6,485.68	35% for year ending 31-12-07	Kuantan Tin Mining Co., Ltd.	2.00	3.00
1906	£120,000	120,000	120,000	1	1	.....	1[- interim 1909	Lahat Mines Ltd.	8.50	9.25
1906	$450,000	450,000	45,000	10	10	.....	....	Malacca Tin Dredging Co., Ltd.	....	1.50
1906	£30.000	30,000	30,000	1	1	.....		Malaya and Siam Corporation Ltd.	....	7[6
1906	£250,000	179,500	500,000s	5/-	5/-	.....		Pahang Consolidated Co., Ltd.	4[6	5[6
1907	£100,000	80,000	80,000	1	1	.....		Pengkalen, Ltd.	4.00	4.50
1904	£100,000	80,000	80,000	1	1	.....	6[- interim	Pusing Bahru Tin Mines, Ltd	7.00	7.50
1904	£120,000	100,000	100,000	1	1	6,000	6[- interim	Pusing Lama Tin Mines, Ltd.	2.00	2.50
1907	$450,000	300,000	30,000	10	10	.....	....	Rahman Hydraulic Tin, Ltd.	10.00	10.50
1905	£40,000	£40,00	40,000	1	1	.....	....	Rahman Tin Co.,Ltd.	11.00	12.00
1905	£27,000	27,000	27,000	1	1	.....	1[- for 1907	Rambutan, Ltd.	....	9.00
1892	£200,000	200,000	200,000	1	1	4,873	1[2 paid April, 1910	Raub Aust. Gold Ming. Co., Ltd,	2.00	2.50
1905	£40,000	40,000	40,000	1	1	.....		Redhills Tin Mining Co., Ltd.	2.00	3.00
1900	$110,000	110,000	22,000	5	5	.....	3% for year ending 22-1-09	Royal Johore Tin Mining Co., Ltd.	....	1.25
1907	$550,000	500,000	50,000	10	10	.....		Salak South, Ltd.	....	3.00
1907	£80,000	80,000	80,000	1	1	.....		Sempam Tin Mines, Ltd.	1.00	1.50
1906	$850,000	850,000	85,000	10	10	25,000	5% interim 1910	Serendah Hydraulic Tin Ming. Co., Ltd.	4.00	5.00
1899	$230.000	230,000	23,000	10	10	.....	3% for ½ year ending 31-12-08	Sipiau Tin Co., Ltd.	1.50	2.00
1909	$200,000	$150,000	15,000	10	10	.....		Sungei Gau Tin Mining Co., Ltd.	....	3.00
1907	£90,000	70,000	70,000	1	1	.....	6[- during 1910	Tekka, Limited.	20.00	21.00
1906	£150,000	150,000	150,000	1	1	.....	1[- interim 1909	Tongkah Harbour Tin Dredging Co., Ltd.	....	12.50
1902	£160 000	160,000	160,000	1	1	.....	7[- during 1910	Tronoh Mines. Ltd.	15.25	16.00

SINGAPORE SHARE QUOTATIONS.—(CONTINUED.)

Date of Formation	Capital	Capital paid up	No. of Shares Issued	Issue Value	Paid up	Reserve	Last Dividend	Name	Buyers	Sellers.
								STERLING RUBBER		
1909	£85,000	78,225	782,250	2|-	2|-	.....	.....	Allagar Rubber Estates, Ltd	4/8	5|-
1905	£150,000	150,000	1,500,000	2|-	2|-	.....	25% interim	Anglo-Malay Rub. Co., Ltd.	1.2.3	1.3.6
1909	£50,000	47,000	470,000	2|-	2|-	.....	.....	Batang Malaka Rubber Estates, Ltd.	2/9	3|-
1904	£30,000	26,750	26,750	1	1	.....	35% interim	Batu Caves Rub. Co., Ltd.	17.0.0	17.10.0
1906	£80,000	67,800	67,800*l*	1	1	.....	2½% for 1909	Batu Tiga (Selangor) Rubber Co., Ltd.	4.15.0	5.0.0
1909	£100,000	74,454	57,816	1	1	.....	6½% for 18 months ending 30-6-10.	Bukit Kajang Rubber Estates, Ltd	2.9.0	2.10.0
			22,184*n**	1	15|-	.....	" " " " "	" " " *part paid*	1.10.0	1.15.0p.
1907	£30,000	25,500	24,000	1	1	.....	30% for year ending 30-6-10	Bukit Lintang Rubber Estates, Ltd.	4.11.3	5.0.0
			6,000	1	5|-	.....	.....	" " " *part paid*	2.2.6	2.7.6p.
1903	£70,000	66,700	66,700	1	1	2,000	25% interim	Bukit Rajah Rubber Co., Ltd.	15.10.0	16.0.0
1906	£35,000	35,000	35,000	1	1	.....	.....	Castlefield (K.) R. Estate, Ltd.	5.18.9	6.5.0
1909	£225,000	176,086	1,760,860	2/-	2/-	.....	.....	Chersonese (F.M.S.) Estates, Ltd.	3|6	3|9
1904	£16,000	16,000	100,000	2|-	2/-	.....	50% interim	Cicely Rubber Estates Co., Ltd.	2.0.0	2.5.0
			60,000	2/-	2|-	.....	5½% interim	" " " " *5% Pref*	2.0.0	2.5.0
1905	£75,000	62,007	620,070	2|-	2|-	1,000	50% interim	Consolidated Malay Rub. Estates, Ltd.	1.2.6	1.3.6
1906	£110,000	110,000	110,000	1	1	.....	50% interim for 1910	Damansara (Selangor) Rubber Co., Ltd.	7.5.0	7.12.6
1903	£600,000	447,200	447,200*a*	1	1	.....	.....	Duff Development Co., Ltd	11|6	12|6
1909	£45,000	42,500	425,000	2|-	2|-	.....	15% interim	Edinburgh Rub. Estates, (Selangor) Ld.	10|6	11|6
1907	£80,000	70,000	70,000	1	1	.....	25% interim	Golconda Rubber Co., Ltd.	5.5.0	5.15.0
1906	£310,000	307,770	307,770	1	1	8,784	10% interim	Highlands & Lowds. Para Rub. Co., Ltd.	5.1.3	5.5.0
1904	£50,000	30,000	30,000	1	1	2,500	100% for year ending 30-6-10	Inch Kenneth Rubber Estates, Ltd	13.10.0	14.0.0
1909	£200,000	143,750	775,000*p*	2/-	1/-	.....	15% for eleven monhts end. 30-6-10	Kam. (P.) R. & T. Co., Ltd. "A" Shares	4|3	4|9 p.
			105,000	1	1	.....	" " " " "	" " " "B" "	----	nom.
1905	£70,000	70,000	70,000	1	1	.....	20% interim	Kapar Para Rubber Estates, Co., Ltd.	8.17.6	9.3.6
1909	£35,000	£17,250	95,000	2/-	2|-	.....	.....	Kota Tinggi Johore Rubber Co., Ltd.	----	2|-
			155,000	2|-	1|-	.....	.....	" " " "	----	0|6 p.
1906	£180,000	180,000	180,000	1	1	.....	75% interim	Kuala Lumpur Rubber Co., Ltd.	7.17.6	8.5.0
1907	£100,000	100,000	1,000,000	2|-	2|	.....	30% interim	Labu (F. M.S.) Rub. Co., Ltd.	15|-	16|-
1907	£320,000	£252,967|10|-	198,930*v*	1	1	3,000	10% interim	Lanadron Rubber Estates, Ltd.	4.18.6	5.2.6
			70,850	1	15/-	.....	10% interim	" " " *part paid*	3.12.6	4.2.6p.
1908	£125,000	75,000	60,000*g**	1	1	.....	10% interim	Ledbury Rubber Estates Ltd.	3.7.6	3.10.0
			40,000	1	7/6	.....	10% interim	" " " *part paid*	1.15.0	1.17.6p.
1895	£100,000	98,324 8|-	883,244*w*	2/-	2/-	4,000	150% interim	Linggi Plantations Ltd.,	2.5.3	2.6.3
			10,000	1	1	.....	7% for 1909	" " " *7% Pref*	----	nom.
1907	£160,000	140,000	1,400,000*k*	2|-	2|-	.....	10% interim	London Asiatic R. & Produce Co., Ltd..	12|-	13|-
1909	£220,000	147,500	50,000	1	1	.....	.....	Lumut Rubber Estates, Ltd.	----	nom.
			150,000	1	3|-	.....	.....	" " " " *part paid*	16|3	17|3 p.
1906	£400,000	300,000	185,000	1	1	.....	10% interim for 1909	Malacca Rubber Plants., Ltd.	7.10.0	8.0.0
			115,000	1	1	.....	" " " "	" " " " *7½% Pref.*	7.10.0	8.0.0
1909	£210,000	181,250	1,812,500	2|-	2|-	.....	.....	Merlimau Rubber Estates, Ltd.	5|3	5|9
1903	£30,000	22,500	225,000	2|-	2|-	.....	75% interim	Pataling Rubber Estates Synd. Ltd.	2.17.6	3.0.0
1906	£85,000	85,000	850,000	2|-	2|-	.....	12½% interim	Perak Rubber Plantations, Ltd	7|6	8|-
1909	£60,000	41,150	15,000*z**	1	1	.....	.....	Rembia Rubber Estates Ltd.	----	nom.
			35,000	1	15|-	.....	.....	" " " 6% *Cum. Pref.*	6|-	7|- p.
1904	£25,000	19,092	17,732*u*	1	1	.....	.....			
			2,268	1	12|-	.....	50% for year ending 30-9-10	Sagga Rubber Company, Limited	11.10.0	12.0.0
1905	£100,000	100,000	71,378	1	1	.....	.....	Sapong Rubber and Tobacco Estates, Ltd.	1.4.0	1.5.0
			28,622*l*‡							
1907	£100,000	100,000	100,000	1	1	.....	.....	Seafield Rubber Co., Ltd	7.2.6	7.10.0
1898	£30,000	30,000	300,000	2|-	2|-	3,000	15% interim	Selangor Rubber Co., Ltd	3.1.3	3.3.3
1909	£50,000	36,000	40,000	1	18|-	.....	225% interim	Sendayan (F. M. S.) Rubber Co., Ltd	1.6.3	1.10.0p.
1906	£65,000	65,000	65,000	1	1	.....	.....	Shelford Rubber Estate, Ltd	3.11.3	3.15.0
1909	£150,000	78,500	14,000*i*‡	1	1	.....	10% interim			
			86,000	1	15|-	.....	.....	Sialang Rubber Estates, Ltd	1.0.0	1.2.6p.
1909	£120,000	100,000	100,000	1	1	.....	12½% for year ending 31-6-10.	Singapore Para Rubber Estates, Ltd.	2.15.0	3.0.0
1906	£200,000	192,500	1,925,000	2|-	2|-	.....	17½% for year ending 31-3-10	Straits Settlements (B.) Rub. Co., Ltd	6|7½	6|10
1907	£60,000	50,000	50,000*p*‡	1	1	.....	.....	Sungei Choh Rub. Estate, Co.Ltd.	4.0.0	4.7.6
1906	£110,000	100,000	1,000,000	2|-	2|-	.....	25% interim	Sungei Kapar Rubber Co., Ltd	12|6	13|6
1907	£70,000	60,500	60,500	1	1	.....	.....	Sungei Salak Rubber Co., Ltd	4.2.6	4.7.6
1904	£60,000	59,500	59,500	1	1	.....	12½% interim.	Sungei Way (Selangor) Rub. Co., Ltd	6.0.0	6.5.0
1908	£150,000	100,560	100,560	1	1	.....	.....	Tebrau (Jchore) Rubber Co	3.7.6	3.12.6
1907	£200,000	200,000	200,000	1	1	.....	5% interim	United Serdang (S.) R. Plantations, Ltd.	5.10.0	6.0.0
1908	£85,000	78,612	786,120	2|-	2|-	.....	20% interim	United Sumatra Rubber Estates, Ltd...	7|9	8|3
1904	£60,000	50,600	506,000	2|-	2|-	.....	75% interim	Vallambrosa Rubber Co., Ltd.	1.15.3	1.17.6
								DOLLAR		
1909	$120,000	105,000	105,000*w**	1	1	.....	.....	Alor Gajah Rubber Estate, Ltd	1.75	2.00
1909	$750,000	700,000	140,000	5	5	.....	.....	Ayer Panas Rubber Estates, Ltd	5.80	6.15
1905	$200,000	151,200	151,200	1	1	5,250	40% interim	Balgownie Rub. Estate, Ltd	10.50	11.00
1910	$500,000	500,000	50,000	10	10	.....	.....	Bukit Timah Rubber Estates, Ltd.	13.50	14.50
1910	$750,000	700,000	70,000	10	10	.....	.....	Changkat Serdang Estates, Ltd	7.75	8.00
1909	$300,000	300,000	300,000	1	1	.....	.....	Glenealy Plantations, Ltd	1.80	2.00
1910	$200,000	164,285	32,857*m*‡	5	5	.....	.....	Haytor Rubber States, Ltd	5.50	7.50
1910	$600,000	180,000	30,000	10	7	.....	.....	Henrietta Estates, Ltd.	----	1 dis.
1909	$250,000	200,000	20,000	10	10	.....	.....	Indragiri (S.) R. and Gutta P. Co., Ltd...	13.00	14.00
1910	$350,000	300,000	300,000*s*‡	1	1	.....	.....	Jimah Rubber Estates, Ltd	0.50	0.60
			11,000	5	5	.....	.....	Kelemak Rubber Estate, Ltd.	3.50	4.00
1910	$350,000	291,000	59,000	5	4	.....	.....	" " " *part paid*	2.00	1.50 dis.
1907	$300,000	170,000	20,000	10	8.50	....	.....	Kombok Rubber Co., Ltd	15.00	prem.
1910	$1,000,000	1,000,000	500,000	2	2	.....	.....	Malakoff Rubber Co., Ltd.	2.25	2.40
1910	$1,250,000	1,250,000	250,000	5	5	.....	.....	New Singapore Rubber Co., Ltd.	6.50	7.00
1910	$700,000	600,000	600,090*q*‡	1	1	.....	.....	Nyalas Rubber Estates	0.40	0.50
1909	$400,000	400,000	80,000	5	5	.....	5% interim	Pajam Limited	11.75	12.25
1909	$200,000	200,000	200,000	1	1	.....	.....	Pantai, Limited	1.15	1.30
1909	$500,000	450,000	45,000	10	10	.....	17½% for year ending 31-8-10	Pegoh, Limited	30.00	30.50
1910	$450,000	295,000	45,000*f*‡	5	5	.....	.....	Port Dickson Rubber Co., Ltd	10.00	12.00
			35,000	5	2	.....	.....	" " " *part paid*	2.00	3.00 p.
1910	$5,000,000	3,675,000	360,000	10	2	.....	.....	Pulau Bulang Rub. & Produce Co., Ltd.	1.75	1.85
			7,500	10	10	.....	.....	" " " " "	----	----
1910	$200,000	150,000	50,000	1	1	.....	.....	Pulo Daat Plantations, Ltd.	0.75	1.00
1904	$100,000	100,000	50,000	2	2	20,000	100% interim	Sandycroft Rubber Co., Ltd	24.50	25.50
1910	$1,500,000	1,500,000	1,500,000	1	1	.....	.....	Sembawang Rubber Plantations, Ltd.	0.55	0.60
1903	$450,000	417,300	208,650	2	2	.....	25% interim	Singapore & Johore Rub. Co., Ltd	12.00	12.25
1909	$250,000	100,000	10,000	10	10	.....	.....	St. Helena Rubber Coy., Ltd.	----	28.00
1910	$600,000	450,000	225,000*n*‡	2	2	....	.....	Sungei Bagan Rubber Co., Ltd.	1.30	1.60
1909	$200,000	165,000	33,000	5	5	.....	.....	Teluk Anson Rubber Estate, Ltd.	4.60	4.85
1910	$425,000	371,700	371,700*r*‡	1	1	.....	.....	Ulu Pandan (Singapore) Rub. Estates Ltd.	0.50	0.60
1909	$1,000,000	737,500	737,500*y**	1	1	.....	.....	United Singapore Rubber Estates, Ltd..	1.25	1.35
								GENERAL		
1903	£400,000	400,000	400,000	1	1	.....	.....	Singapore Electric Tramways, Co., Ltd..	3|3	4|3
1907	$1,500,000	1,065,150	25,000*d**	10	10	.....	10% for year ending 31/12/08	Eastern Smelting Co. Ltd	----	10.00 n.
			116,450	10	7	.....	10% for year ending 31-12-08	" " " *part paid*	----	6.00 n.
1898	$360,000	360,000	36,000	10	10	170,000	10% interim	Fraser & Neave, Ltd.	25.50	26.50
1905	$2,400,000	2,400,000	18,000	100	....	75,000	2½% for year ending 31-10-08	Howarth Erskine, Ltd.	----	56.00
			6,000	100	....	.....	7% for year ending 31-10-08	" " 7% *Pref*	----	91.00
1896	$1,000,000	1,000,000	6,000	100	100	40,600	12% for year ending 31-12-09	Katz Brothers, Ltd. *Deferred*	----	125.00
			4,000	100	100	.....	8% " " " " 09	" " 8% *Cum. Pref*	----	nom.
1901	$34,000	34,000	3,400	10	10	.....	20% for year ending 31-10-09	Maynard & Co., Ltd.	20.00	23.00
1899	$875,000	875,000	6,000	100	100	175,000	5% for year ending 31/12/09	Riley, Hargreaves & Co., Ltd	85.00	87.50
			2,750	100	100	.....	7% for year ending 31/12/09	" " " " 7% *Pref*	102.00	----
1897	£3,500,000	3,500,000	2,500,000	1	1	1,120,000	22½% for 1909	Shell Transport and Trading Co., Ltd	3.19.00	4.2.6
			100,000	10	10	.....	.....	" " " " *Pref.*	11.5.0	12.0.0
1903	$600,000	250,000	25,000*n*	10	10	.....	12½% for year ending 30-6-10.	Singapore Cold Storage Co., Ltd	22.50	23.00
1891	$30,000	30,000	600	50	50	23,000	10% for year ending 31-7-09	Singapore Dispensary Ltd.	50.00	52.50
1884	$200,000	200,000	2,000	100	100	75,000	15% interim	Straits Ice Co., Ltd	----	165.00
1890	$1,000,000	623,000	4,980	100	100					
			2,500	100	50	760,000*q*	5% interim	Straits Steam Ship Co., Ltd.	215.00	225.00
1887	$3,000,000	3,000,000	300,000	10	10	805,400*r*	10% & 5% bon. for half yr.	" " " " " *part paid*	65.00	prem.
						1,400,000	end. 31|3|10	Straits Trading Co., Ltd	54.50	55.00
								DEBENTURES		
								Howarth Erskine, Ltd. 6% $600,000	----	par.
								Riley, Hargreaves & Co., Ltd. 6%,284,000	1%	3% p.
								Singapore Electric Tramways, Co., Ltd. 5% £350,000	----	----
								Singapore Municipal 5% 1,878,000	----	nom.
								" " 4½% of 1907 1,600,000	6%	7% p.
								" " 4½% of 1909 1,000,000	7%	8% p.
								" " 4% 602,000	----	7% dis.

a { 152,800 unissued; 43,949 6% debenture
e { 54,500 £1 Prefs issued; 45,500 £1 " unissued; 100,000 5\|- Ord. "
f 6,250 unissued
k £40,000 6% Debentures 200,000 unissued
p 175,000 unisd "A" shares
q Sundry Reserves.
r "
u 5,000 issued £1 prem.
v 50,220 unissued
w 16,756 "
*b** 221 7½% Debentures
*d** 8,550 unissued
*g** 25,000 unissued
*i** £10,000 Convertible 6% Debentures issued
12,200 shares unissued
*n** 20,000 unissued
*y** 262,500 "
*z** 10,000 "
i‡ 50,000 "
l‡ 6% Deb. Stock Convble.
m‡ 7,143 unissued.
n‡ 75,000 unissued.
o‡ 67,750 "
p‡ 10,000 "
q‡ 100,000 "
r‡ 53,300 "
s‡ 50,000 "

YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, DECEMBER 28, 1910.

STOCKS.	CAPITAL.	NO. OF SHARES.	ISSUE VALUE.	AMOUNT PAID UP.	DATE.	LAST DIVIDEND.	FOR TERM.	CLOSING QUOTATION.
Brett & Co., Ltd.	-Y- 28,000	2,800	-Y- 10	-Y- 10	31-12-09	12½%	for 1 year	15 Sellers
Club Hotel, Ltd.	185,000	1,850	100	100	31-3-10	6%	for 1 year	70 Sales
Grand Hotel, Ltd.	500,000	5,000	100	100	31-6-10	5%	for ½ year	90 Sellers.
Helm Bros., Ltd.	186,000	3,720	50	50	31-12-10	17½%	for 1 year	95 Sales.
Langfeldt & Co., Ltd.	100,000	2,000	50	50	30-6-09	6%	for ½ year	60 Sellers.
C. Nickel & Co., Ltd. †	500,000	20,000	25	25	31-10-09	20%	for 1 year	57 Sales.
Thwaites, Limited.	100,000	2,000	50	50	First Year	—	—	55 Sales.
Yokohama Engine and Iron Works *	500,000	10,000	50	50	31-5-09	—	for 1 year	35 Sales.
Oriental Hotel, Ltd., Ordinary	250,000	3,000	50	50	31-8-07	12%	for 1 year	50 Sales
Oriental Hotel, Ltd., Preference		2,000	50	50		8%	for 1 year	52:50 Sales
The Union Estate and Investment Co., Ltd. ‡	1,000,000	10,000	100	100	30-9-09	7%	for 1 year	100 Nominal.
The Clifford Wilkinson Tansan Mineral Water Co., Ltd. §	500,000	5,000	100	100	31-12-09	7%	for 1 year	100 Buyers.

† 285,000 unissued.
‡ 475,000 unissued.
*-Y- 390,000 issued.
§-Y- 375,800 issued.

DEBENTURE LOANS.	AMOUNT OF LOAN.	FACE VALUE OF DEBENTURES.	RATE OF INTEREST.	INTEREST PAYABLE.	CLOSING QUOTATION.
Brett & Company, Limited.	11,500.00	100.00	7%	1 June and 1 Dec.	95 Sales.
Yokohama United Club.	230,000.00	100.00	6%	30 June and 31 Dec.	102 Nominal.
Oriental Hotel, Limited.	350,000.00	100.00	8%	1 April and 1 Oct.	103 Sales.
Union Estate and Investment Co., Limited.	250,000.00	100.00	6%	30 June and 31 Dec.	95 Sellers.

JAPANESE STOCKS.	FACE VALUE.	AMOUNT PAID UP.	LAST DIVIDEND.	DIVIDEND PAYABLE.	CLOSING QUOTATION.
Bonds & Debentures.					
Exchequer Bonds 3rd issue.	-Y-100	-Y-100	5%	March and Sept.	-Y-101.00
Railway Bonds (Ko-Gobu)	100	100	5%	June and Dec.	,, 99.40
4% Imperial Loan Bonds (1st issue)	100	100	4%	June and Dec.	,, 93.45
4% Imperial Loan Bonds (2nd issue)	100	100	4%	March and Sept.	,, 94.30
Special 5% Bonds (issued 1906).	100	100	5%	June and Dec.	,, 99.30
Yokohama Water Works Bonds	100	100	6%	June and Dec.	,, 101.50
Yokohama City Public Loan Bonds	100	100	6%	March and Sept.	,, 103.80
Osaka City Harbour Construction Bonds	100	100	6%	June and Dec.	,, 101.00
Osaka City Public Loan Bonds	100	100	6%	June and Dec.	,, 101.00
Kawasaki Dock Yards Co.'s Debentures	100	100	7%	June and Dec.	,, 104.00
Tokyo Race Associations "	500	500	30%	June and Dec.	,, 190.00
Railways & Electric Trams.					
Tokyo Railway Company, Limited	50	50	5 2|5%	June and Dec.	,, 71.95
Yokohama Electric Tramway Company, Limited	50	50	6%	July and Jan.	,, 53.00
Keihin Electric Tramway Company, Limited	50	50	6%	June and Dec.	,, 43.05
Southern Manchurian Railway Co., Ltd.	100	20	6%	June and Dec.	,, 43.50
Hanshin Electric Tramway Co., Ltd.	50	50	12%	May and Nov.	,, 118.00
Cotton Spinnings.					
Kanegafuchi Cotton Spinning Company, Limited.	50	50	14%	July and Jan.	,, 106.95
Fuji Gassed-yarn Company, Limited.	50	50	14%	June and Dec.	,, 85.40
Tokyo Cotton Spinning Company, Limited.	50	50	8%	July and Jan.	,, 44.00
Imperial Hemp Weaving Company, Limited.	50	50	12%	July and Jan.	,, 71.95
Nisshin Boseki Kabushiki Kaisha.	50	17½	7%	June and Dec.	,, 11.85
Sugar & Beer Cos.					
Dai-nippon Sugar Refinery Company, Limited.	50	50	.....	May and Nov.	,, 42.00
Ensuiko Sugar Refinery Company, Limited.	50	20	20%	June and Dec.	,, 45.50
Dai-nippon Beer Company, Limited.	50	50	12%	July and Jan.	,, 81.60
Kirin Brewery Company, Limited.	50	50	7%	July and Jan.	,, 52.50
Docks & Steamships.					
Yokohama Dock Company, Limited.	50	33	12%	June and Dec.	,, 60.00
Uraga Dock Company, Limited	50	50	.....	July and Jan.	,, 6.50
Kawasaki Dockyard Company, Limited	50	50	12½%	Feb. and Aug.	,, 54.00
Nippon Yusen Kaisha.	50	50	10%	May and Nov.	,, 96.30
Hokkaido Tanko S. S. Company, Limited.	50	50	5%	July and Jan.	,, 29.00
Miscellaneous.					
Tokyo Electric Light Company, Limited.	50	50	12%	June and Dec.	,, 82.80
Tokyo Gas Company, Limited.	50	50	13%	July and Jan.	,, 102.60
Yokohama Union Electric Light Company, Limited.	50	50	14%	June and Dec.	,, 107.50
Fuji Paper Mills.	50	50	6%	June and Dec.	,, 30.50
Otaru Timber Company, Limited.	50	50	.....	March and Sept.	,, 33.00
Hoden Petroleum Company, Limited.	50	50	20%	April and Oct.	,, 57.40
Tokyo Rope Manufacturing Company, Limited.	50	50	18%	June and Dec.	,, 104½ Ex. Dividend.
Japan Horse Improvement Company, Limited.	50	50	.....	March and Sept.	,, 13 50
Tokyo Stock Exchange Company.	50	50	15 1|5%	June and Dec.	,, 180.30
Osaka Electric Light Company, Limited.	50	50	16%	July and Jan.	,, 103.50
Kobe Electric Light Company, Limited.	50	50	14%	July and Jan.	,, 112.00

BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.) DECEMBER 28, 1910

NAME.	BUYERS.	SELLERS.	LAST SALES.	ESTABLISHED.	CAPITAL.	NO. OF SHARES.	ISSUE VALUE.	AMOUNT PAID UP.	RESERVE FUND	LAST DIVIDEND
Siam Electricity Co., Ltd.	Tcs. 300	Tcs. 325	Tcs. 325	1901	£ 300,000	30,000	£ 10—	£ 300,000	Tcs. 491,338	12% Tcs. 4 bon.
Paknam Railway Co., Ltd.	,, 200	,, —	,, 220	1893	Tcs. 400,000	5,000	Tcs. 80	Tcs. 400,000	,, 37,566	14%
Siam Tramway Co., Ltd.	,, —	,, —	,, 108	1905	,, 1,450,000	6250 Shares 7250 Deb. 1000 P. Shares	,, 100	,, 2,230,000	,, 1,875	—
Meklong Railway Co., Ltd.	,, 90	,, 100	,, 90	1907	,, 2,230,000	22,300	,, 100	,, 223,000	,, 28,000	5%
Bangkok Manufact. Co., Ltd.	,, —	,, —	,, 132	1898	,, 400,000	4,000	,, 100	,, 400,000	,, 60,000	7% per for 6
Bangkok Dock Co., Ltd.	,, —	,, 135	,, 135	1865	,, 1,000,000	10,000	,, 100	,, 950,000	,, 220,000	months
Siam Steam Packet Co.	,, 80	,, 909	,, 90	1898	,, 190,000	3,800	,, 50	,, 190,000	,, 34,000	5%
Siam Commercial Bank	,, 1,000	,, 1,500	,, 1,000	1906	,, 3,000,000	3,000	,, 1,000	,, 3,000,000	,, 338,850	4% for 6 mos.
Menam Motor Boat Co.,	,, 75	,, 90	,, 90	1905	,, 200,000	2,000	,, 100	,, 200,000	—	none
Transport Co., Motor,	,, —	,, 75	,, 100	1906	,, 200,000	2,000	,, 100	,, 200,000	—	—
Jenderata Rubber Co.*	,, —	,, 325— Ticals	,, 325 (for six calls)	1906	£ 40,000	4,000	£ 10	£7.-paid	—	—
Bagan Rubber Co.	,, —	,, 100	,, 100	1907	Tcs. 300,000	3,000	Tcs. 100	Tcs. 40 per share	—	—
Siam Steam Navigation Co., Ltd.	,, 300	,, 325	,, —	1909	,, 2,000,000	10,000	,, 200	—	,, 10,000	—
Siam Stone Works, Ltd.	,, —	,, —	100	1909	,, 350,000	3,500	,, 100	,, 350,000	—	6% half year
Kombok Rubber Co.	,, 25	,, 35	32	1906	$ 300,000	30,000	$ 100	$7, per Share	—	—

PHILIPPINE SHARE REPORT

COURTESY B. A. GREEN, GENERAL SHARE, BOND AND INVESTMENT BROKER.—*Manila, P. I., January 10, 1911.*

NAME	CLOSING QUOT'N	WHEN INCORPORATED	AUTHORIZED CAPITAL	ISSUE VALUE OF SHARES	NUMBER OF SHARES	NUMBER OF SHARES SUBSCRIBED	PAID UP	RESERVE FUND	WORKING ACCOUNT	DATE	LAST DIVIDEND
American Drug Store	....	1908	₱ 100,000	₱1,000	100	51	₱1,000	₱5,000	₱ 50,000	June 30, 1910.	.....
Antamok Valley Mining Co	₱0.40	1909	500,000	1	500,000	320,000	1	.... .	.....	.....	First year.....
Banco Español Filipino	₱255.	1851	3,000,000	200	15,000	15,000	200	408,715	.....	July 1, 1910.	10% for 1910 .....
Bayhay Valley Oil Co	100.	1909	100,000	100	1,000	.....	100	.....	.. ..	.....	First year.....
Benguet Commercial Co	85.	1908	200,000	100	2,000	736	100	.....	.....	.....	8% for 1906.....
Benguet Consolidated Mining Co....	0.50	1903	2,000,000	2	1,000,000	495,000	2	.....	.....	.....	.....
Bua Mining Co. Common	90.	1905	750.000	100	7,000	3,366	100	.....	.....	.....	.....
Preferred	140.			100	500	500	100	.....	.....	.....	.....
Cadwallader-Gibson Lumber Co....	.....	1908	1,000.000	100	10,000	8,650	100	.....	.....	.....	.....
Camote-Clayton Mining Co.....	.....	1909	400,000	10	40,000	26,000	10	.....	.....	.....	First year.....
Compania Maritima.....	55.	1894	510,000	100	5,100	5,100	100	.....	.....	.....	20% for 1902.....
East Batan Coal Mining Co.....	33.	1909	3,000,000	50	60,000	40,000	50	.....	.....	.....	First year.....
El Varadero de Manila.....	80.	1885	450,000	100	4,500	4,500	100	288,955	134,715	Aug. 31, 1910	3½% interim 1910...
Electrical Supply Co.....	.....	1909	100,000	100	1,000	280	72	.....	.....	....	First year.....
Export & Import Lumber Co.....	.....	1908	200,000	200	1,000	1,000	200	.....	.....	.....	.....
Escolta Press Inc.....	100.	1907	50,000	100	500	320	100	.....	.....	.....	12% for 1909.....
Fabrica de Hielo de Manila.....	60.	1894	350,000	50	7,000	7,000	50	.....	.....	.....	14% for 1910.....
Germinal Cigar Factory.....	525.	1900	1,500,000	500	3,000	3,000	500	.....	.....	.....	12% for 1909.....
H. E. Heacock & Co.....	.....	1909	100,000	100	1,000	800	100	.....	.....	.....	First Year.....
Headwaters Mining Co.....	10.	1908	600,000	10	60,000	59,800	10	.....	.....	.....	.....
Insular Lumber Co.....	140.	1907	2,000,000	200	10,000	9,000	200	.....	.....	.....	.....
Lepanto Mining Co.....	.....	1906	1,000,000	100	10,000	8,000	100	.....	.....	.....	.....
Juan Seiboth Co.....	.....	1908	150,000	20	7,500	500	20	.....	.....	.....	.....
La Concha Button Factory.....	90.	1905	75,000	100	750	530	100	.....	.....	.....	15% for 1909.....
Los Banos Improvement Co.....	150.	1908	100,000	200	500	500	200	.....	.....	.....	16% for 1908.....
Lambert, Springer Co.....	.....	1908	200,000	1,000	200	80	1,000	.....	.....	.....	.....
Luzon Stevedoring Co.....	25.	1909	250,000	25	10,000	4,200	25	.....	.....	.....	.....
Luzon Sugar Refining Co	....18.	1882	700,000	100	7,000	7,000	100	.....	.....	.....	3% for 1907.....
Manila Electric Ry. & Light Co....	140.	1903	12,000,000	200	60,000	.....	200	.....	.....	.. ..	4% for 1909.....
Manila Hotel Co.....	100.	1909	400,000	100	4,000	3,500	100	.....	.....	.....	Under Construction..
Mindanao Herald Publishing Co...	.....	1907	15.000	100	150	75	100	.....	.....	.....	½% for 1908 .....
Muyot Mining Co.....	3.	1909	500,000	10	50,000	.....	10	.....	.....	... .	First Year.....
Paracale Gold Dredging Co.....	15.	1907	£10,000	£1	10,000	10,000	£1	.....	.....	.....	£1 for 1908–9.....
Paracale Ext. Gold Dredging Co...	10.	1909	₱450,000	₱10	45,000	.....	₱10	.....	.....	....	First Year.....
Philippine Publishing Co.....	120.	1907	600,000	200	3,000	2,187	200	.....	.....	.....	10% for 1910.....
Philippine Co., Ltd.....	5.	1904	750,000	10	75,000	75,000	10	.....	.....	.....	.....
Philippine Gold Dredging Co.....	8.	1907	200,000	10	20,000	20,000	10	.....	.....	.....	.....
Philippine Exploration Co.....	.....	1908	2,000,000	10	200,000	120,000	10	.....	.....	....	.....
Port Banga Lumber Co.....	.....	1908	100,000	100	1,000	934	100	.....	40,000	Oct 1, 1910.	.....
Rosenstock Publishing Co.....	.....	1908	75,000	10	7,500	6,000	10	.....	.....	.....	.....
San Nicolas Iron Works.....	100.	1901	300,000	500	600	600	500	.....	.....	.....	15% for 1903.. .....
San Mauricio Gold Mining Co.....	.....	1908	4,000,000	200	20,000	20,000	200	.. ...	.....	....	.....
Sanitary Steam Laundry.....	20.	1908	100,000	20	5,000	3,900	20	.....	.....	....	.....
Tarlac Railway Co.....	65.	1906	150,000	100	1,500	1,500	100	.....	.....	....	.....
Tumbaga Mining Co.....	35.	1910	2,000,000	2	1,000,000	772,0000	2	.....	.....	....	Reorganized 1910. ....
Union Hemp Machine Co.....	.....	1909	50,000	10	5,000	2,600	10	.....	.....	.....	First Year.....
Walter E. Olsen Co.....	100.	1909	500,000	100	5,000	2,033	100	.....	.....	....	First Year.....
Zamboanga Cold Storage Co.....	125.	1903	40,000	100	400	200	100	.....	.....	....	20% for 1909.....

PHILIPPINE BONDS

	DATED	AUTHORIZED	ISSUED	OUTSTANDING	PAR VALUE	RATE OF INT.	WHEN PAYABLE	LAST QUOTATION
Philippine Friar Land Bonds	Feb. 1st, 1904	$7,000,000	$7,000 000	$7,000,000	$ 100	4%	Feb. 1, 1914	104⅜
Public Works and Permanent Improvement Bonds	March 1, 1905	$5,000,000	$2,500,000	$2,500,000	$ 100	4%	March 1, 1915	104⅜
Do.	Feb. 1, 1906		$1.000,000	$1,000,000	$ 100	4%	Feb. 1, 1916	104⅜
Manila Sewer and Water Works Improvement Bonds	June 1, 1905	$4,000,000	$1,000,000	$1,000,000	$ 100	4%	June 1, 1915	104⅜
Do.	Jan. 2, 1907		$2,000,000	$2,000,000	$ 100	4%	Jan. 2, 1917	104⅜
*Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds	July 1. 1907	$15,000,000	$5,736,000	$5,736,000	$1000	4%	July 1, 1937	97
B. P. O. Elks. First Mortgage 7% Five-Fifteen Year Sinking Fund Gold Bonds	July 1, 1908	$75,000	$45,000	$45,000	$ 50	7	July 1, 1923	50½

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.

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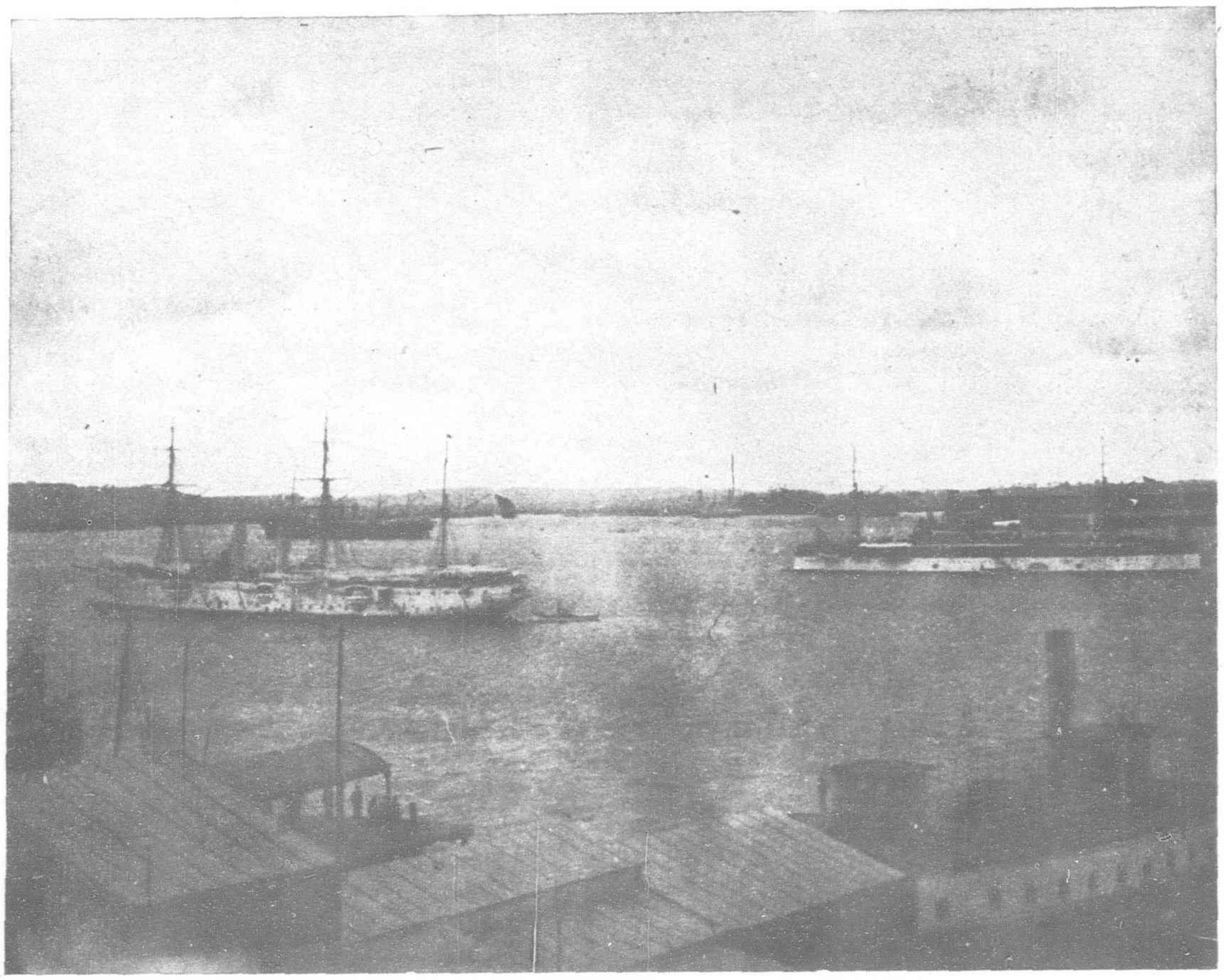
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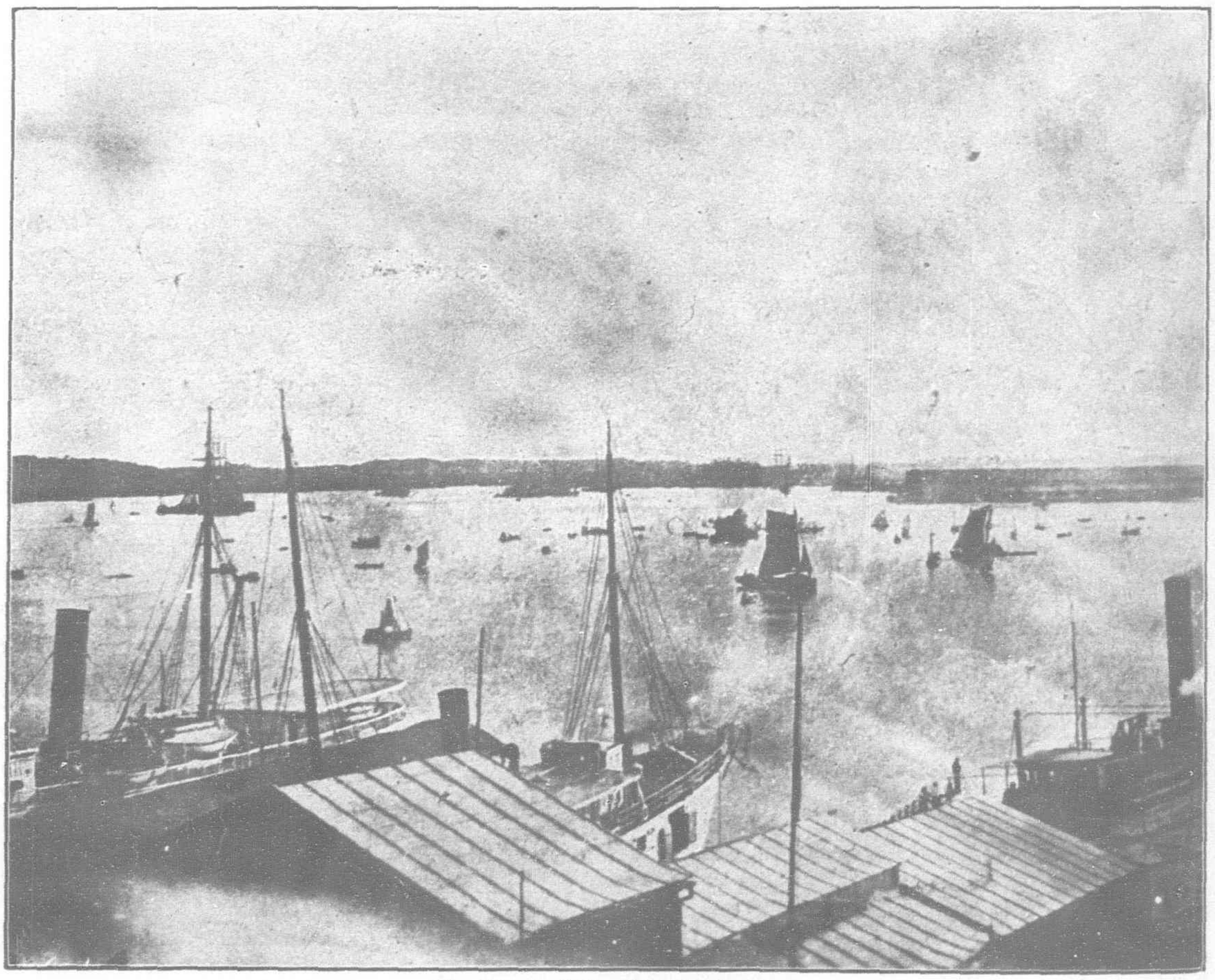
The Spanish Cruiser *Alfonso XII*

Havana Harbor

The Morning

of February 15th

1898



The U. S. Battleship *Maine*

The Morning

of the 16th

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Taken by the Writer

from the Roof

of the Hotel Mascotte

The Wreck of the *Maine* still burning